OLD!

THE ESSENTIAL GUIDE TO CLASSIC GAMES

retro GAMER

COMMODORE | SEGA | NINTENDO | ATARI | SINCLAIR | NEO-GEO | SONY | MOBILE

DIGGING UP EARTHWORM JIM 2

NICK BRUTY ON OUT-GROOVING SHINY ENTERTAINMENT'S CRAZY PLATFORMER

THE **ULTIMATE** POLL

GREATEST GAME SYSTEMS

OF ALL TIME

YOU VOTED – NOW DISCOVER THE RESULTS

PLUS: DEVELOPERS CELEBRATE **YOUR** PICKS

THE MAKING OF EXIDY'S **VENTURE**

HOWELL IVY ON **BRINGING** THE ADVENTURE GENRE TO ARCADES

FUTURE

ISSUE 177

INSIDE **LOOKING GLASS STUDIOS**

WARREN SPECTOR LOOKS BACK ON HIS TIME AT THE INFLUENTIAL COMPANY

WELCOME BACK TO RETRO_

funstock RETRO.co.uk

THE RETROBATES

WHAT'S YOUR FAVOURITE GAMES SYSTEM OF ALL TIME?

DARRAN JONES

The Mega Drive, and not just because it had an amazing port of *Strider* on it.

Expertise:
Juggling a gorgeous wife, two beautiful girls and an award-winning magazine

Currently playing:
Her Story

Favourite game of all time:
Strider

DREW SLEEP

There's not many hills I'll plant my flag and gladly die on, but the PS2 being the greatest system of all time is something I'll be declaring until I'm dragged into the cold, hard ground.

Expertise:
Beaming the **RG** team into *FTL*

Currently playing:
FTL: Faster Than Light

Favourite game of all time:
Final Fantasy VIII

NICK THORPE

You're expecting Master System here, but it's the Dreamcast. I actually started writing about games because nobody was covering imports like *Border Down* and *Puyo Puyo Fever*!

Expertise:
Owning five Master Systems (I sold two)

Currently playing:
Garou: Mark Of The Wolves

Favourite game of all time:
Sonic The Hedgehog

SAM RIBBITS

I'd have to stay true to the Game Boy Advance here. 100 per cent, undeniably, most definitely the best handheld ever. Assuming you're sitting directly under a light.

Expertise:
Pixels

Currently playing:
Ori And The Blind Forest

Favourite game of all time:
Croc: Legend Of The Gobbos

PAUL DRURY

I'd happily live alone with my MAME cab, but if that isn't technically a 'system' I'll say the C64 for all the fantastic and formative memories.

Expertise:
Palitoy handhelds

Currently playing:
Son Of Scoregasm

Favourite game of all time:
Sheep In Space

GRAEME MASON

The Sega Mega Drive – awesome arcade conversions and shoot-'em-ups

Expertise:
Adjusting the tape azimuth with a screwdriver

Currently playing:
Dishonored 2

Favourite game of all time:
Resident Evil 4

MARTYN CARROLL

If I had to choose a pure gaming system it would be the original PlayStation. Got me right back into gaming and kept me out of the pub.

Expertise:
Sinclair stuff

Currently playing:
Crash Bandicoot N Sane Trilogy

Favourite game of all time:
Jet Set Willy

LOADING...

If you've already flicked through the mag you may have noticed a gigantic feature dedicated to the greatest games systems of all time. So this feels like the perfect time to tell you about mine.

While the Amstrad CPC will always have a special place in my heart – it was my first ever home computer, after all – Sega's Mega Drive narrowly beats out the Xbox and Nintendo DS as my favourite games system of all time. Being a Master System owner, I was already aware of the incoming release of the Mega Drive and can remember seeing early images of *Space Harrier 2* and *Super Thunderblade* while I was in my final year of school.

Sega's console is special to me because it's the first ever console I imported. It highlighted the differences to me between NTSC and PAL ports, and it proved that systems in the home were more than capable of delivering (seemingly) perfect arcade conversions. As I loved arcade games and shoot-'em-ups, the machine was the perfect choice for me, and it soon introduced me to a world of fantastic Japanese exclusives that I would try and buy whenever I could afford them.

It's certainly got its fair share of stinkers, but the Mega Drive is a really special machine to me and I can't imagine never having one in my life. We've got 29 other systems featured in this issue, which mean just as much to the rest of you as Sega's console does to me, so let's hurry on and see what they all are.

Enjoy the magazine!

OLDIE
retro GAMER
THE ULTIMATE POLL
GREATEST GAME SYSTEMS OF ALL TIME
YOU VOTED – NOW DISCOVER THE RESULTS
PLUS: DEVELOPERS CELEBRATE YOUR PICKS
THE MAKING OF EARTHWORM JIM 2
INSIDE LOOKING GLASS STUDIOS

CONTENTS

>> Load 177 Breathing new life into classic games

RETRO RADAR

06 **Juicing Up The Next**
Jim Bagley tells us about his involvement with the exciting Spectrum Next

08 **Mr Biffo**
Our columnist's memory is hazy and he's trying to remember his first videogame experience

10 **The Vault**
If you've got some spare Christmas cash we've got plenty of ways you can spend it

12 **Collector's Corner**
Our latest collector, John Paul Sutherland, has a Nintendo collection that will make you weep

14 **Back To The Noughties**
Nick has successfully pushed through the time vortex to end up in January 2001

REVIVALS

16 **Roland On The Ropes**
Darran revisits one of the first Amstrad CPC games that he ever owned

60 **Rocket Knight Adventures**
Drew remembers how a rare case of brotherly love helped him through Konami's rock-hard Mega Drive game

80 **Super Puzzle Fighter II Turbo**
Nick's quite competitive when it comes to videogames, as his friend James discovered on one dark night

100 **Yoshi's Island: Super Mario Advance 3**
Sam abuses the chance to write a Retro Revival to shoehorn in a mention of *Croc*. Kasplat!

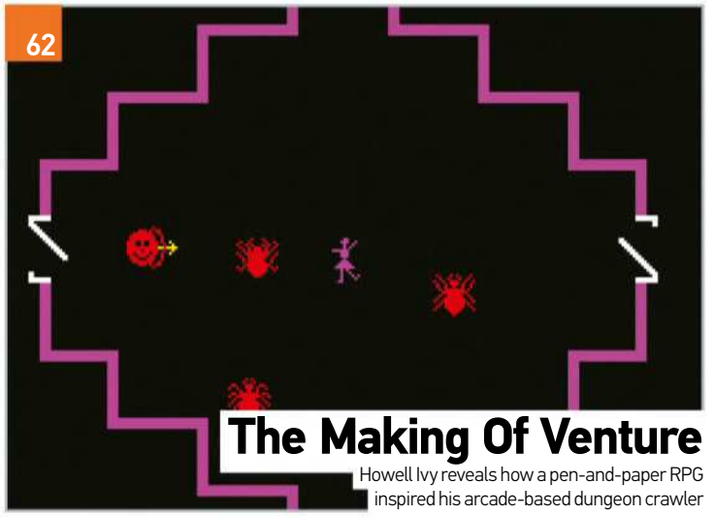
FEATURED

66 **Classic Moments: Super Skidmarks**
Nick Thorpe recaptures all the best bits from Acid Software's top-down racing game

68 **Licence To Thrill: Big Trouble In Little China**
Graeme Mason discovers how a fun Eighties action movie failed to translate to home computers

72 **The Unconverted**
We've no idea what Nick's been playing this month, but we did see him fighting a shark

94 **In The Chair: Tony Williams**
Martyn Carroll quizzes the coding guru who was equally adept at creating fantastic tunes



The Making Of Venture
Howell Ivy reveals how a pen-and-paper RPG inspired his arcade-based dungeon crawler

Don't forget to follow us online for all your latest retro updates

RetroGamerUK @RetroGamer_Mag

Retro Gamer Magazine @RetroGamerMag darran.jones@futurenet.com

SUBSCRIBE TODAY! AND SAVE 20%

Get your retro fix delivered right to your door

18

The Greatest Game Systems Of All Time

Developers celebrate your favourite systems by revealing what they love about them

74

From The Archives: Looking Glass Studios

Paul Walker-Emig quizzes Paul Neurath and Warren Spector about the studio's enduring PC-based legacy

82

The Making Of: Earthworm Jim 2

Nick Bruty discusses racing against the clock to create Shiny's groovy follow-up

86

Ultimate Guide: Castle Of Illusion Starring Mickey Mouse

The Mega Drive version gets all the love, but Nick argues that the Master System version is the better game

REVIEWS

102 Super Retro-Cade

104 Pinball FX 3

104 A Hat In Time

104 Stern Pinball Arcade

104 Okami HD

ESSENTIALS

92 Subscriptions
More exciting than opening up a Nintendo 64 in 1996

106 Homebrew
Jason Kelk is back with more homebrew goodness

110 Mailbag
Send us your letters and you may win a cool retro book

113 Next Month
We've got some top-secret intel on our next issue

114 Endgame
Nick shows off his gallows humour

» [ZX Spectrum Next] *No Fate* is already looking like it's going to be an excellent Next release.

2018: YEAR OF THE SPECTRUM

Jim Bagley on why you should be excited about the ZX Spectrum Next

CONTENTS

6 2018: YEAR OF THE SPECTRUM
Jim Bagley reveals more about the upcoming Spectrum Next

8 MR BIFFO
This month our amnesiac columnist is trying to recall his first gaming memory

10 THE VAULT
Lots of great new retro goods, including an explosive *Metal Slug* soundtrack and a lush PlayStation book

12 COLLECTOR'S CORNER
Our latest reader has a Nintendo collection that's bound to leave you as green as a Game Boy screen with envy

14 BACK TO THE NOUGHTIES
Nick kicks off a new old year by stopping off in January 2001

Fans of all things Spectrum are looking set for a fantastic 2018, thanks to the incoming launch of the Kickstarted ZX Spectrum Next machine, which lucky backers will have their hands on in a few short months. We spoke to the prolific Spectrum coder Jim Bagley to discover how he ended up contributing to the exciting new project by creating new tools and games for it.

How did you become involved with the Spectrum Next?

I was doing a talk at Play Blackpool 2016 and Henrique Olifiers [one of the Spectrum Next's creators] suggested I might be interested in his talk, so I went to see it. I watched him unveil the Spectrum Next, and at the end of his talk he asked if there were any questions. I put my hand up and said where could I get a dev kit from, so he gave me a board after the talk. With it being called the ZX Spectrum Next, I thought it needed to be a next iteration. So, unlike the other developers who had boards who made games for it, I decided to add hardware sprites because one of the first things people ask me when they want to make a game for the Spectrum is, 'How do you draw a sprite onto the screen?' And the quick answer is that it's pretty difficult for a newcomer. I thought by adding hardware sprites, it would mean that they would be able to get sprites moving around the screen a lot easier, which would mean less people giving up with their dreams of making a game.

» [ZX Spectrum] Games like *Driller* will certainly benefit from the Spectrum Next's new turbo mode.

Can you tell us more about the sprite tool you've made for the system?

It's basically a sprite editor, you can load a 16K file and you can then edit them and view it as a big 8x8 pixels to one pixel, so you can see which pixel you're drawing on, and you can also see it in its 1:1 scale version also, and you can animate them, by adding the current sprite to your animation list, and it will play it animated.

What's it been like being involved with crowdfunding?

It's been an awesome experience. I've

» Jim fell in love with the Spectrum Next at first sight, immediately asking for a development kit upon seeing it.

"The Spectrum community is an awesome one and got behind the Spectrum Next in mass"

Jim Bagley

loved being a part of it, yes. It was also a little scary because of all of the issues that went on with the other Spectrum before we went live with our Kickstarter campaign, but, thankfully, the Spectrum community is an awesome one and got behind the Spectrum Next in mass! So I thank them for that.

So you've been working with Henrique Olifiers, what has it been like working with him?

Henrique is an awesome organiser and has done a fantastic job bringing all the correct people together to make an awesome machine. It's been an absolute pleasure, and we've become good friends in the last year.

How important will good programming tools be to the success of the Next?

Very much so, as I believe the easier it is for people to make games, be it in Garry Lancaster's amazing job of NextBASIC or machine code, or with Jonathan Cauldwell's brilliant Arcade Game Designer. With more people making games, it'll be better for the community and better for the machine. Having all the tools is just as vital as the machine itself.

Tell us about the games you are creating for the Next.

There's an awesome platformer designed, with graphics by Simon Butler with the working title *Quakestar*, and I want to do a Spectrum Next remake of a few older games, which will be released for free. There is also an awesome port of *Warhawk* (C64 and DS games) by the original author Michael Ware who I'm working with to bring out on the Spectrum Next.

Will original Spectrum games be enhanced by the Next?

Some of the slower Spectrum games – such as 3D games – can be enhanced by getting the speed boost from the Spectrum Next's turbo modes. BASIC games will be given their own speed boost from the turbo modes, too – like the original *Football Manager* by Kevin Toms, as the league scores come up a lot faster now. The new hardware additions to the machine weren't known back [when the games were made], so none of the new features will be used with them, unless someone has the original sources and can add use of hardware sprites etc, and redo it.

Are you tempted to revisit any of your old games and enhance them?

Yes I'd love to do a remake of *Midnight Resistance* using the extra features of the Next, but it would have to be a free release, as I don't own the IP, but I do own the code from my Speccy version.

» The Kickstarter has released updates showing every aspect of the Next's progress, including production.

What Next games do you think readers should be excited about?

Dream World Pogie, *Wonderful Dizzy*, and hopefully *Warhawk*. Readers should also look forward to a few games being written by the awesome Lampros Potamianos and any game by the equally awesome WASP group.

Why do you think there's been so much excitement around the Next?

Because it's something that seems to have got the Spectrum community back together, and the fact that there are a lot of the original Spectrum games programmers and artists getting back into making games, because making games for the Next (for me, at least) reminds me of when the games industry was starting out and it was fun times. I've had a lot more fun making games and demos for the Next than making a high-profile game for the next-gen consoles.

READER'S WEIGH IN

Will you buy a ZX Spectrum Next?

Yes 50% **No** 37%
Can't Decide 13%

As a speccy owner back in the day I would be very interested in buying one if they should become available again. I missed the Kickstarter and the online shop which has sold out. I won't be paying over the odds to some eBay user, though.
Arnie

I'd like one, but I know I wouldn't use it enough to justify the cost right now. Here's hoping it's a success and they keep churning them out so I can pick one up in a few of years when there are plenty of games around for it.
Antiriad2097

I've not backed or preordered, because of other perpetually delayed crowdfunded projects, but I'm very supportive of their efforts and I'm sure I'll get one eventually if it lives up to the expectations.
Matt_B

I'll definitely pick one up if it becomes widely available... but like others I'm not going to pay over the odds if there are shortages. Looking forward to the C64 mini (with a perfect replica of the brilliant Competition Pro joystick) in March 2018, which I have preordered. Just need an Amstrad CPC 6128 mini now!
Batman877

Here's my bio... Paul Rose
Paul Rose is probably better known as Mr Biffo – the creator and chief writer of legendary teletext games magazine *Digitiser*. These days, he mostly writes for kids TV, but can still be found rambling on about games, old and new, for his daily website, Digitiser2000.com.

Logic dive

When did you first learn about videogames? I'm not talking about the first game you played; I mean, when did you become aware that there existed in the world these things called 'videogames'? In other words: what is your very first gaming memory? I was trying to work out mine recently, and my timeline is all a bit foggy.

I can remember finding a *Pong*-style console in a cupboard at home, which my mum told me was a Christmas gift for my sister. I thought this was weird, given that my sister wasn't the sort to play videogames, and assumed it was a cover story – because the console was actually for me. But weirder still, neither my sister nor I got a console for Christmas that year.

Indeed, the first console I remember owning was a Binatone, and that was at least a year after seeing the one in the cupboard. No idea what happened to the other one. Perhaps it was a present for my mother's fancy fellow.

But the thing is... when I saw that console in the cupboard, I knew what it was. I had an awareness of videogames by that point. So how and when did that awareness come about? I'm going to go out on a limb and assume I saw a videogame in action somewhere, rather than some still pictures in a catalogue or magazine. I'm so old that the games that were around when I was little were in black and white – and a screenshot of *Pong* wouldn't have exactly conveyed what it was to a seven year-old who had no previous experience of videogames.

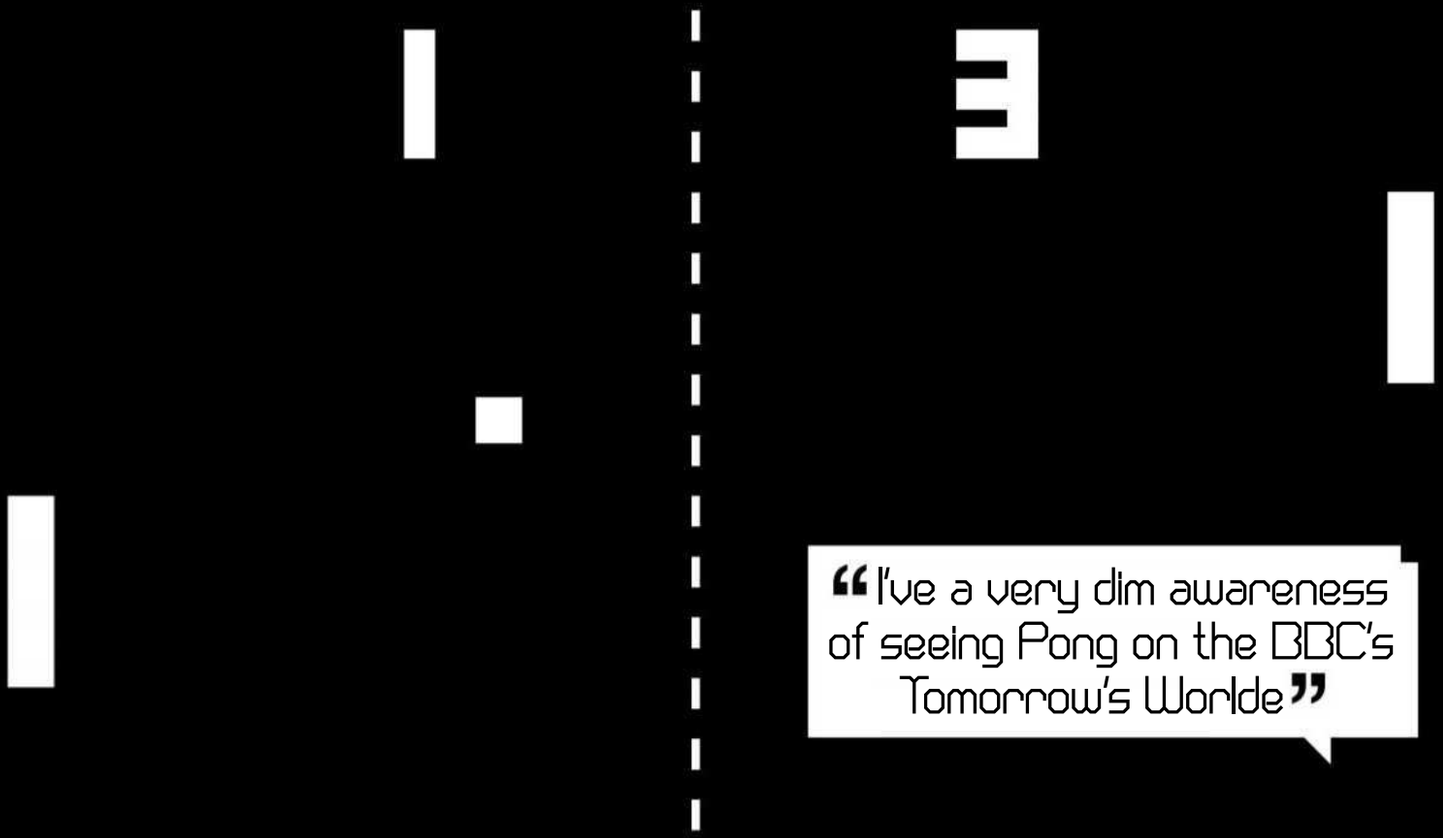
I've a very dim awareness of seeing *Pong* on the BBC's long-gone science show *Tomorrow's World*, but I also remember going to arcades on summer holidays, and having to stand on a box to play *Gun Fight* and *Night Driver*. Those games were released in the mid-Seventies, a quick Google reveals to me, but I can also remember them knocking around in arcades a long time after the black-and-white era of gaming had passed.

Therefore, there's every possibility that I'm getting extremely confused.

Maybe I'm combining memories there, or my subconscious has rewritten history. Point is, I'm a bit sad that I don't really remember the time I first laid eyes on videogames. I remember falling in love with them, I can remember being excited at the prospect of owning one, but I don't remember the moment when, you know, videogames turned around in slow motion, flicked back its hair, and gave me that look.

Or maybe... that's kind of appropriate. Maybe it's right that I can't remember, because if I strain really hard, what I do know is that it feels like videogames have always been with me. It's like they're as part of me, as part of my world, as genetic memory, or some evolutionary instinct, like fight-or-flight; when I see videogames my heart beats a little bit faster, my pulse races.

Truth is, I can't remember a time when videogames didn't make me feel that way. *



> "I've a very dim awareness of seeing Pong on the BBC's Tomorrow's Worlde"

Do you agree with Paul's thoughts? Contact us at:

RetroGamerUK @RetroGamer_Mag darran.jones@futurenet.com

RAILWAY EMPIRE

'This is one ride you do not want to miss'

– Hooked Gamers

GET YOUR COPY NOW FROM

GAME

3 www.pegi.info

/kalypsomediaINT www.kalypsomedia.com

PC Linux XBOX ONE PS4 kalypso GAMING MINDS

Railway Empire Copyright © 2017 Kalypso Media Group GmbH. All rights reserved. Developed by Gaming Minds.
Published by Kalypso Media UK Ltd. "PS" and "PlayStation" are registered trademarks of Sony Interactive Entertainment Inc.
Also, "PS4" is a trademark of the same company. All other logos, copyrights and trademarks are property of their respective owner.

PICK OF THE MONTH

PlayStation Anthology

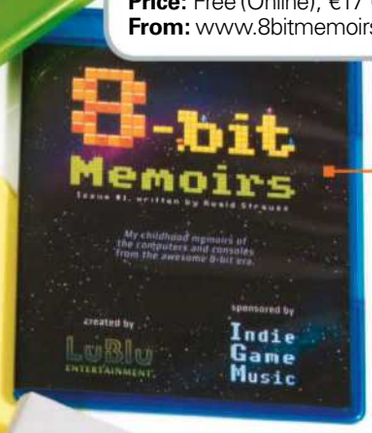
After impressing us with its *N64 Anthology*, Geeks Line has taken its next book in a different direction. The result is a great read that not only explains Sony's origins and the rise of its first console, but also includes some amazing interviews with a number of high-profile developers, including Jason Rubin, Yuji Horii, Kanta Watanabe and Suda51. It's let down in places by some low-quality images, but it still manages to do an incredible job of retelling the story of Sony's market dominance. To add to the level of detail that the book offers it finishes on a collector's guide that lists every single PlayStation game that was officially published.
Price: $44.90 (Classic Edition) $55.90 (Collector Edition)
From: geeksline-publishing.com

Log Jammers

This entertaining NES game is an undead take on *Windjammers* and it's surprisingly good fun as well. There's the ability to take part in a tournament or compete in one-on-one matches, while a multiplayer mode is also available. Characters don't have special moves, but there's a selection of different power-ups and a variety of locations to battle across. There are even unlockable characters to discover.
Price: $49.99 **From:** megacatstudios.com

8-Bit Memoirs

Blu-ray is an odd choice of format for *8-Bit Memoirs*, because navigation is fiddly when using a console (although the 5 hours of music does benefit). It's nice that videos of the CPC games that Roald Strauss loved and made as a youngster have been included and some of the personal anecdotes are heartwarming, but a disc just seems a strange way to deliver them. It's an interesting project, though that's clearly been made with a lot of love.
Price: Free (Online), €17 (Blu-ray)
From: www.8bitmemoirs.com



Metal Slug Soundtrack

The 13th Data Discs release is an interesting one as it marks the first non-Sega soundtrack the company has released. It's the result of a year-long collaboration with SNK Corporation and hopefully means more classic SNK soundtracks will be on the way. The 13-track vinyl sounds excellent, featuring plenty of punchy bass, and was sourced from a Neo-Geo development kit in Japan and is presented in a lavish gatefold. The vinyl itself is available with either an opaque yellow or classic black finish.
Price: £19.99 **From:** data-discs.com

SNES/Super Famicom: A Visual Compendium

Sam Dyer's book series is always good value and this one is no exception. It's filled with fantastic art and photography, and a large number of developers and journalists have been interviewed. There are numerous profiles on key studious such as Enix, Square and Acclaim (but strangely, no Konami) as well as a spotlight on great homebrew games and unreleased efforts. The end result is a glorious book that no SNES fan should be without.
Price: £10 (PDF), £25 (softcover), £35 (hardcover)
From: bitmapbooks.co.uk

THE DUNGEON LORD RETURNS

OUT NOW!

ORDER FROM

GAME

DUNGEONS II

16+ www.pegi.info

XBOX ONE PC PS4

REALMFORGE kalypso

Dungeons 3 Copyright © 2017 Kalypso Media Group GmbH. All rights reserved. Developed by Realmforge Studios. Published by Kalypso Media UK Ltd. "PS" and "PlayStation" are registered trademarks of Sony Interactive Entertainment Inc. Also, "PS4" is a trademark of the same company. All other logos, copyrights and trademarks are property of their respective owner.

OGRE BATTLE 64

"I bought this from a branch of Trader in Shinjuku a few months ago, purely for the box art. It's so pretty. It's totally ornamental but I think that's okay."

PAID: £3

JEWEL IN THE CROWN

MARIO BROS. GAME & WATCH

"My mum bought this for me in Andorra in about 1990. We went to get a Sony Walkman and came home with this instead. I got this signed by Shigeru Miyamoto back in 2003, and even he took a double take at it. I don't think he saw many of these that day!"

PAID: £25

SUPER MARIO BROS. 3

"One of the classic games of my childhood. The intro alone just takes me back to being eight again. It's magic, and mine still has a £39.99 Woolworths label on it."

PAID: £5

SUPER MARIO GALAXY 2

"I think it's the best 3D platformer ever (although I haven't finished *Odyssey* yet so the jury is out on that one). It's a masterpiece, one of the greatest games ever made, and the only reason you need the next time anyone tries to throw shade at the Nintendo Wii!"

PAID: Free

BIO

NAME:
John Paul Sutherland

ESTIMATED VALUE:
£10,000

FAVOURITE SYSTEM:
N64

FAVOURITE GAME:
The Legend Of Zelda: Ocarina Of Time

THE LEGEND OF ZELDA: A LINK TO THE PAST

"I bought this game around 11 years ago. It's in beautiful condition, complete, and I got it signed by Shigeru Miyamoto. It replenishes my hearts whenever I touch it."

PAID: £5

Nintendoverload

Readers take us through the retro keyhole

Some players become interested in retro gaming as the games they loved age, while others grow up with one eye already on the games of the past. John Paul Sutherland is the latter kind. "I've always been interested in retro games, my brother Peter and I liked to pick up NES cartridges from the market even when we had a SNES and an Amiga 500," he remembers. Actively collecting is a recent development, though. "I started building this collection about three years ago, inspired by my friend Ras's *Transformer*'s prototype collection, the rising costs of N64 software, and my mate Robbie telling me that my future children would not bother picking out *Super Mario World* from a list of ROMs on a screen."

There's a lot of Nintendo mentioned there, and that's no coincidence. "I became obsessed with Nintendo since *Super Mario World* became the first game I 100 per cent completed, and subsequently genuinely loved," he reminisces. "I have bought every single Nintendo console on release day since the Nintendo 64 and it's a difficult habit to shake! I used to import a lot but that's not so necessary nowadays." Despite this, John Paul isn't exclusively a Nintendo collector. "I started dabbling a bit with Saturn, Neo-Geo Pocket Color and Game & Watch, but high prices have meant that progress has been slow on that front!"

John Paul's approach to game condition is a pragmatic one, putting the experience of the game over cosmetics. "Pretty much all I have amassed is boxed, and nearly always complete," he explains, but continues, "I make odd exceptions for things I don't see in the wild very often or things I'm really curious about, and I will usually try and find a box for it later." He's also the kind of collector who tends to stick to buying what he'll play, and avoids a common pitfall that many of us have experienced. "The main thing I found is not to buy things just because they are rare or expensive," he advises. "I have owned rare items in the past like *Panzer Dragoon Saga* on Sega Saturn and *Garou: Mark of the Wolves* on AES but they never gave me the same joy I got from *Mario 64* or the *Zelda* games."

Like many collectors, John Paul has felt the effect of rising prices in the retro market, and tries to buy smartly to mitigate that. "I would love to go back to the days where I could buy boxed SNES classics for a fiver each but that's not going to happen, so you just have to be more patient, or collect for consoles that are in a price trough," he explains. "Xbox, Wii and DS are very cheap right now, and they all have some cracking games." Despite this price consciousness, he doesn't have a hard ceiling on price, saying, "I don't really set any limits on what I would spend, but for me it's got to be near the going rate at least."

As you'd expect with such a young collection, there are still gaps John Paul would like to fill. "I'm after a complete *Zelda* collection, and there still are a few special editions I still need…" he volunteers, before adding *Paper Mario* and *Conker's Bad Fur Day*. "I don't have them yet because I'm just trying to be patient and get them all for good prices," he says, though he concedes that he's "going to be waiting a while". We just wish we had the same patience…

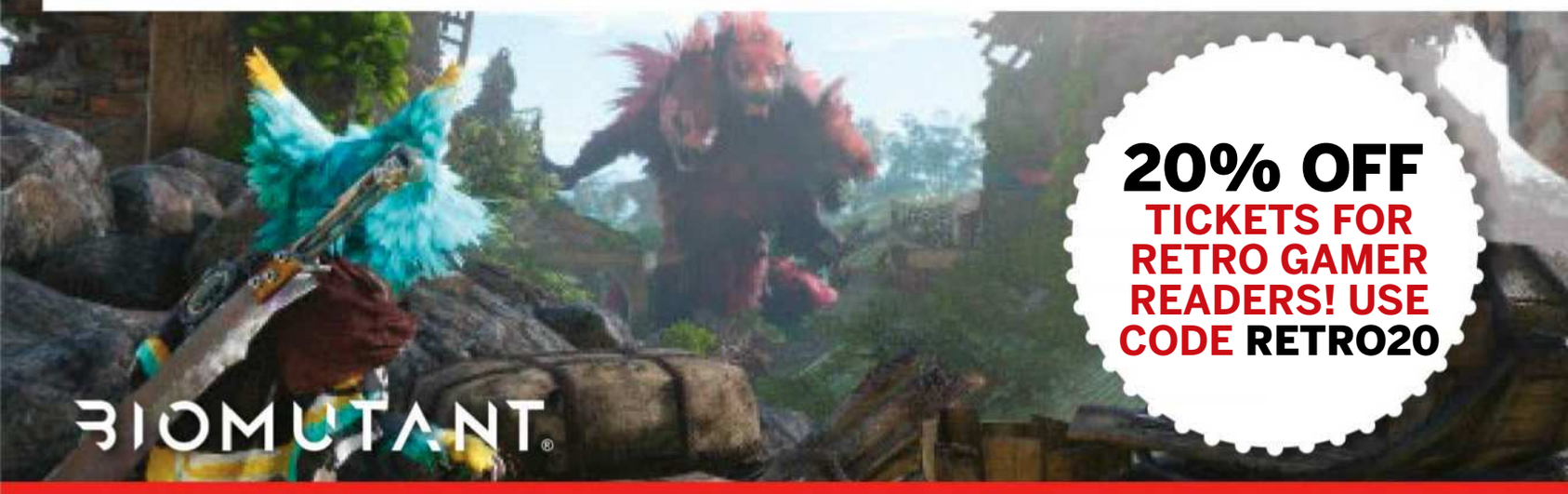
PC GAMER WEEKENDER

PLAYED ON OMEN by hp 2018

Olympia London

17th - 18th February

FIRST GAMES ANNOUNCED!



20% OFF TICKETS FOR RETRO GAMER READERS! USE CODE **RETRO20**

PLUS Spellforce 3, Frozen Synapse 2, Shift Quantum, Metamorph: Dungeon Creatures, Rend, Production Line, Basingstoke, Guns of Icarus Alliance, Crash Force **and much more still to be announced!**

BOOK TICKETS @ **WEEKENDER.PCGAMER.COM**

BACK TO THE NOUGHTIES

JANUARY 2001 – The Christmas frenzy is over and low-profile releases are getting their chance to shine, while we finally know just how big PlayStation 2 fever was. Nick Thorpe guides you through the first month of a tumultuous year…

[Dreamcast] Sega's take on *Gran Turismo* just didn't hold up against Sony's mighty racer.

NEWS JANUARY 2001

George W Bush was sworn in as the 43rd president of the USA on 20 January, following a close election victory in November 2000. He was the first Republican president since his father left office eight years prior, and only the second President's son to follow his father into office. Bush's early months in office were relatively quiet, with an approval rating of slightly over 50 per cent typical of his first eight months.

On 24 January, Secretary of State for Northern Ireland Peter Mandelson was forced to resign from the cabinet for the second time. Mandelson had contacted Home Office minister Mike O'Brien at the behest of Srichand Hinduja, an Indian businessman who was mired in scandal in his home country. Hinduja had been seeking British citizenship, and Mandelson was accused of improperly using his position to influence this decision. A later inquiry ruled that Mandelson had not abused his position and his career continued.

The final day of January saw the verdict handed down in the trial of the Lockerbie bombing suspects. Libyan citizens Lamin Khalifah Fhimah and Abdelbaset al-Megrahi stood accused of 270 counts of murder in connection to the 1988 attack. Fhimah was acquitted, but al-Megrahi was sentenced to life imprisonment. He stayed in prison until 2009, when he was released on compassionate grounds.

THE LATEST NEWS FROM JANUARY 2001

With Christmas having been and gone, things were quiet in January 2001, with few high-profile launches to speak of. The first PlayStation 2 numbers were in – Sony had shipped 300,000 across Europe for launch day. The UK received just 80,000 of the 165,000 units that had been preordered by customers, and 93,000 games were sold in the first two days. *Tekken Tag Tournament* was the most popular game, clocking up 19,500 sales during the launch weekend. The somewhat overblown big news for the month was another PlayStation 2 story – this time concerning DVD playback.

[PC] Right now, Agent 47 is bald, bad and barely concealed. Find a hiding place!

If players tried to achieve the best audiovisual quality from their consoles by using RGB SCART cables, they wouldn't be able to watch DVD movies properly, instead being confronted with a green picture. Sony claimed that this intentional behaviour was an anti-piracy measure, designed to stop people copying movies to VHS. Many players wouldn't have noticed, as the machine was bundled with adequate composite cables.

The best new PlayStation 2 game of the month was *Theme Park World*, the sequel to the classic strategy game. This was a more faithful version of the game that had been rather limited in its original PlayStation conversion. This was something *Play* noted in its 85% review, with Mark Crawley stating that it would "properly introduce a new generation of players to a game that everyone should try at least once". However, Paul Fitzpatrick felt that "if you have the earlier version, this is not an overwhelming argument for shelling out again", and awarded the game 7/10 in the *Official PlayStation 2 Magazine*.

PlayStation owners had a good Christmas, and a low-profile January followed. *Alex Ferguson's Player Manager 2001* received 88% from *Play* and 3/5 from *CVG*, with the former declaring it "slow but rewarding." The rest of the month's fare was relatively mediocre, with the likes of *Ducati World* hardly setting the world on fire, and the system also gave us the month's biggest stinker. Players hoping for another slice of wrestling action after the excellent *WWF Smackdown! 2* were in for a disappointment, as the bizarre *WCW Backstage Assault* invited players to wrestle everywhere except a wrestling ring. *CVG* judged the game "a lame, cack-handed effort that's just not fun", and *Play* suggested that EA was "banking on the blind spending of a horde of gullible WCW fans".

Dreamcast owners should scarcely have been looking for anything new after the Christmas they had, but *Worms World Party* was a good shout for those that were. *CVG*'s Les Ellis gave the game 4/5, and claimed that it was "set to take over from *Chu Chu Rocket* as the number one online DC puzzle game". Less brilliant was *Sega GT*, a *Gran Turismo* competitor which came under criticism from *CVG*'s Johnny Minkley for its slow and rigid structure. "Even

[PS2] *Theme Park World* had already been on PlayStation, but the new console did it better.

when you begin to unlock cars and fiddle around under the bonnet, you can't participate in half the races because of one rule or another," he complained, awarding the game 3/5.

PC gamers received their first encounter with an enigmatic assassin in IO Interactive's *Hitman: Codename 47*. This stealth action game involved carefully plotting schemes to take out designated targets, utilising careful observation, cover and even disguises. *PC Zone* was fond of the game, awarding it 85% and stating that it "more than makes up in style for what it lacks in moral integrity". *CVG* was similarly enamoured, giving it 4/5, but *Edge* wasn't so keen, giving the game 5/10 due to "poor level design and clumsy controls", though it did encourage the developer to "take its good ideas back to the drawing board". Also available for the PC this month was American McGee's *Alice*, a darker take on Lewis Carroll's tales from the former id Software level designer. The game was praised for its variety and storytelling, but poor controls marred the experience. *PC Zone* gave it 75% and commented that it was "expecting a little bit more than a 'darker' *Rayman 2*", meanwhile *Edge*'s 4/10 review suggested that level design and playability "seem to have played second fiddle to some admittedly impressive visuals."

Nintendo fans had a rather lean month on their hands. *Mickey's Speedway USA* was the only new UK game reviewed in *N64 Magazine*, receiving 80% from Mark Green. The game was good but suffered from competing with more established games – as the reviewer noted, "Neither the multiplayer nor the time trial come close to *Mario Kart*, and the cart will be gathering dust well before Easter." On the Game Boy, the *Pokémon Trading Card Game* was the biggest deal of the month – *CVG* judged it, "Challenging and rewarding, but not as sparkly as the other *Pokémon* games," and gave it a commendable 4/5 score, while *N64 Magazine* gave it 5/5 and lauded it as "one of the finest in-depth strategy experiences ever".

Next month, a bombshell drops and the industry will never be the same again. What could it be? Well, tune in next time to find out what happens…

[Game Boy Color] There's no need to worry about scuffing up your shiny *Pokémon* cards here.

[N64] *Mickey's Speedway USA* isn't the strongest entry in Rare's stunning N64 library.

CHARTS

JANUARY 2001

NINTENDO 64

1. The Legend Of Zelda: Majora's Mask (Nintendo)
2. WWF No Mercy (THQ)
3. The World Is Not Enough (EA)
4. Pokémon Snap (Nintendo)
5. Pokémon Stadium (Nintendo)

PLAYSTATION

1. Driver 2 (Infogrames)
2. Who Wants To Be A Millionaire? (Eidos)
3. FIFA 2001 (EA)
4. Tomb Raider Chronicles (Eidos)
5. The World Is Not Enough (EA)

PLAYSTATION 2

1. Tekken Tag Tournament (SCEE)
2. Timesplitters (Eidos)
3. SSX (EA)
4. FIFA 2001 (EA)
5. Ridge Racer V (SCEE)

MUSIC

1. Rollin' (Limp Bizkit)
2. Pop Ya Collar (Usher)
3. The Next Episode (Dr Dre feat. Snoop Dogg)
4. Touch Me (Rui Da Silva feat. Cassandra)
5. Everytime You Need Me (Fragma feat. Maria Rubia)

THIS MONTH IN...

Edge

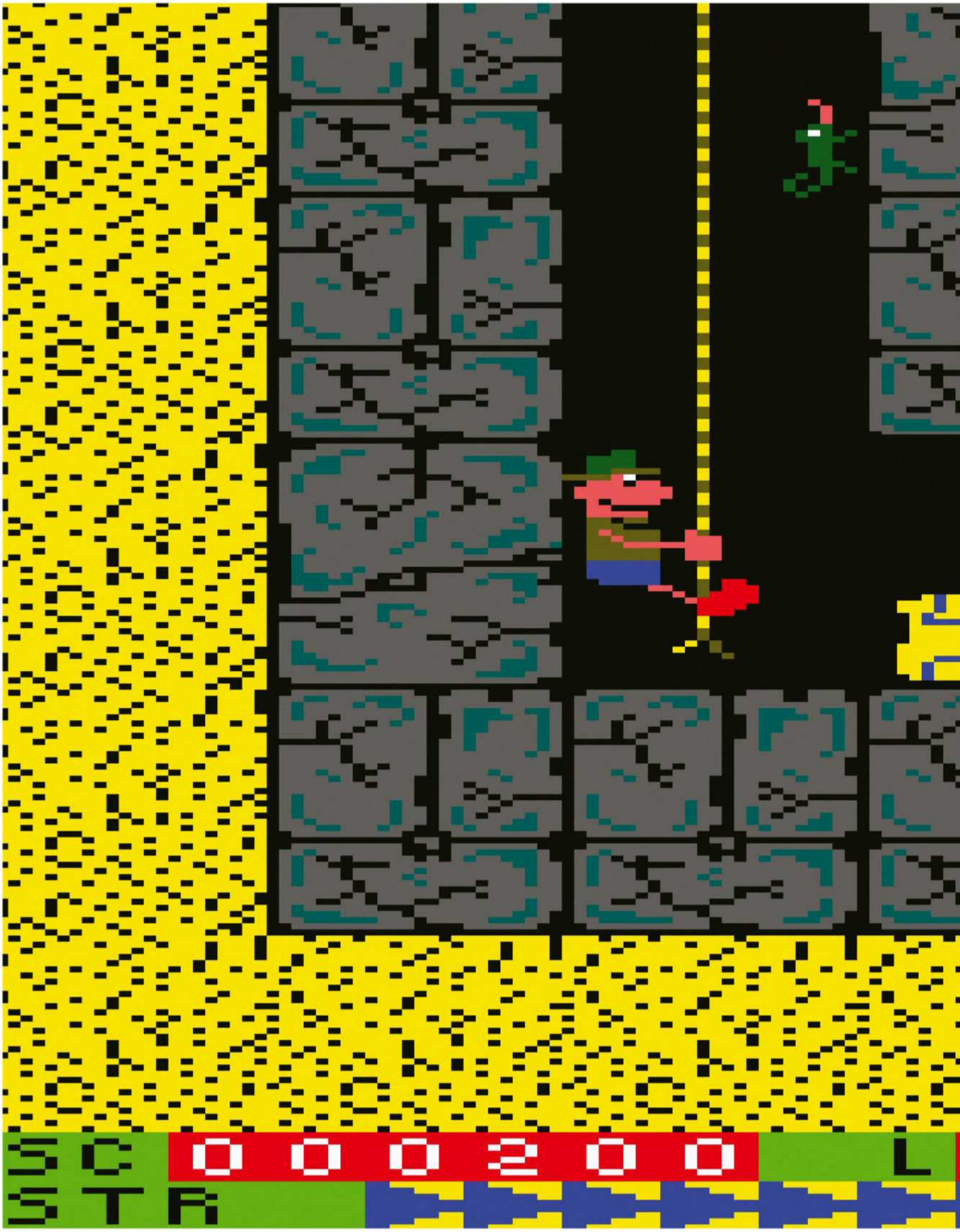
One of this month's big features is Development Hell Part 2, another collection of anecdotes about everything going horribly wrong. Highlights include a developer trying to MacGyver his way out of a window using a roll of bubble wrap, and Geoff Brown calling Charles Cecil in a panic due to a visit from the Birmingham vice squad.

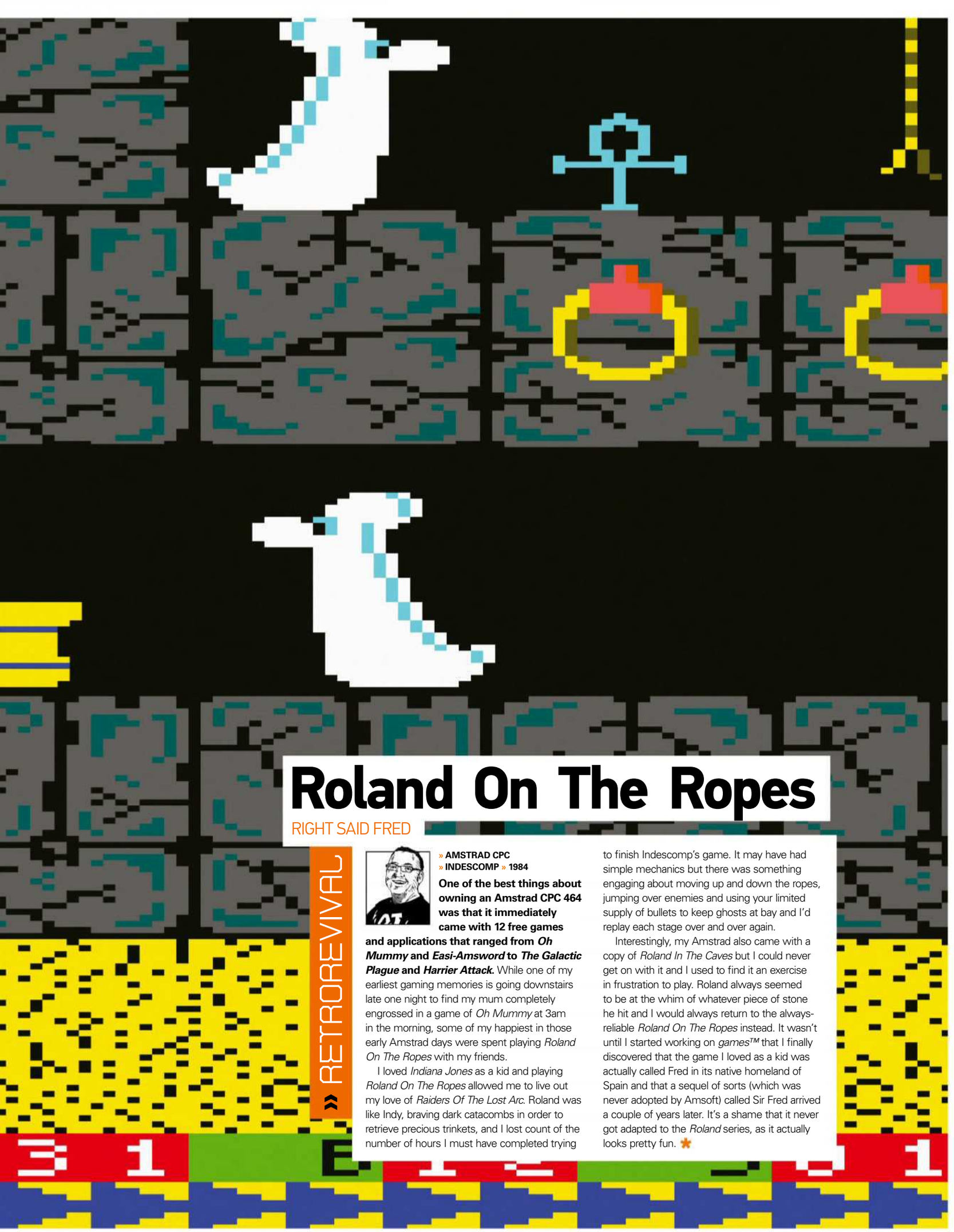
Computer & Video Games

This month's news section tells us that HMV and WH Smith are trialling a new way of delivering PC games – an in-store CD-ROM burner, which also prints high-quality artwork and manuals. Apparently, the technology could even be extended to PlayStation 2 and Xbox, revolutionising the retail experience.

N64

It's issue 50, so the former *N64 Magazine* team members get to reminiscing. We learn that Wil Overton was almost decapitated by a Jar Jar Binks toy, and that Tim Weaver once drew swastikas all over the box of Mark Green's new vacuum cleaner. Oh, and of course the obligatory "one nit wen i was sleppin a grackler cam" reference.


SC
0 0 0 2 0 0
L
STR



Roland On The Ropes

RIGHT SAID FRED

RETROREVIVAL

» AMSTRAD CPC
» INDESCOMP » 1984

One of the best things about owning an Amstrad CPC 464 was that it immediately came with 12 free games and applications that ranged from *Oh Mummy* and *Easi-Amsword* to *The Galactic Plague* and *Harrier Attack*. While one of my earliest gaming memories is going downstairs late one night to find my mum completely engrossed in a game of *Oh Mummy* at 3am in the morning, some of my happiest in those early Amstrad days were spent playing *Roland On The Ropes* with my friends.

I loved *Indiana Jones* as a kid and playing *Roland On The Ropes* allowed me to live out my love of *Raiders Of The Lost Arc*. Roland was like Indy, braving dark catacombs in order to retrieve precious trinkets, and I lost count of the number of hours I must have completed trying to finish Indescomp's game. It may have had simple mechanics but there was something engaging about moving up and down the ropes, jumping over enemies and using your limited supply of bullets to keep ghosts at bay and I'd replay each stage over and over again.

Interestingly, my Amstrad also came with a copy of *Roland In The Caves* but I could never get on with it and I used to find it an exercise in frustration to play. Roland always seemed to be at the whim of whatever piece of stone he hit and I would always return to the always-reliable *Roland On The Ropes* instead. It wasn't until I started working on *games™* that I finally discovered that the game I loved as a kid was actually called Fred in its native homeland of Spain and that a sequel of sorts (which was never adopted by Amsoft) called Sir Fred arrived a couple of years later. It's a shame that it never got adapted to the *Roland* series, as it actually looks pretty fun.

THE AL GREA GAME S

WE ASKED YOU TO VOTE FOR YOUR FAVOURITE GAMING MACHINES, AND NOW **RETRO GAMER** PROUDLY PRESENTS THE RESULTS

We love videogames, games are fun. They can take you to far-off worlds and let you shoot down entire space fleets; they allow you to find ways to save mankind or ways to quash it, and they let you play the hero, or the villain. For many of us they have helped define our childhoods, or even led us to our careers. And yet videogames would be nothing without the hardware that they run on, so we wanted to kick off our first issue of 2018 by celebrating the greatest game systems of all time.

We asked you to rank your top ten favourite gaming systems, and the results were interesting with 94 systems voted for from 35 different manufacturers. The top five

L TIME

TEST YSTEMS

manufacturers will come as no surprise to long-term readers, but what is interesting is that no single company had all its machines appear in the final top 30. It's also important to remember that this isn't our list, but *yours*. We collated a staggering amount of votes from the **Retro Gamer** readership in order to discover what you feel are the greatest machines of all time. Some of your choices raised eyebrows with us, as we're sure they will with you, and certain systems simply didn't amass enough points to make the final list, but it nonetheless gives a great insight into what you, the readers, enjoy as the magazine continues to evolve (some of the featured machines were considered cutting-edge systems when **Retro Gamer** first hit the shelves in 2004).

As with our greatest games feature from issue 150 nothing was excluded from being voted for so don't be surprised if you see a few current systems in the list, you probably won't be too surprised by the top spot, either, (even though it was hotly contested by second place to the bitter end). It's also given us the opportunity to create a photography-led feature, something we've never done in the magazine before. We hope you enjoy reading it as much as we enjoyed creating it.

30 SWITCH HYBRID HEAVEN

MANUFACTURER: **NINTENDO** | YEAR: **2017**

■ **We're surprised to be kicking off the list with a such a young console, honestly.** However, the Switch elegantly realises the concept of being both a handheld and home console, and it's impossible to deny the quality of games like *The Legend Of Zelda: Breath Of The Wild*, *Splatoon 2* and *Super Mario Odyssey*.

Christie Sandy, *Producer at Team17*

Why do you think a brand-new console has made such an impact on our readers?

I believe the Nintendo Switch has resonated so strongly because it really brings a whole new gaming experience to the market, by taking classic home console gaming and allowing it to break free from your lounge. The seamless transition from TV mode to handheld mode is a real winner for any gamer, as your gaming experience can continue on uninterrupted when someone else needs the TV!

What's the Switch like as a development system?

It's an exciting console to develop on. Learning about the Switch's capabilities and how we could use them within our games was a fantastic experience.

Have developers been caught by surprise by the Switch's success in 2017?

I think everyone has been pleased with the Switch's success, as well as developers. We're gamers too so it's fantastic to see it do well. The Switch really brings something unique to the market and it's certainly a big hit around our office!

Why is Team17 releasing so many games on Switch?

I believe it's because our games really suit the Switch console and its audience. *Overcooked*, *Worms WMD*, *Yooka-Laylee* and *The Escapists 2* are all great, good fun games to play that really feel at home on the Nintendo Switch.

How do Team17's games, such as *Worms WMD*, benefit from being on Switch?

It's been seven years since we launched a *Worms* game on a Nintendo platform, so we were excited to get the chance to bring *Worms WMD* to a new system, especially one that really allows the player to have an uninterrupted experience. Being able to whip out the Joy-Cons means that multiplayer games can be up and running so quickly too! This is a great match for *Worms WMD* which features both local and online multiplayer modes.

Your say...

"SO CONVENIENT AND AN AMAZING FIRST YEAR OF GAMES"

– Tim Fitches

Fun fact

THE LYNX RECEIVED ALMOST **TWICE AS MANY VOTES AS SEGA'S GAME GEAR**, DESPITE SELLING AROUND A THIRD AS MANY UNITS

29 LYNX A TRULY HANDY CONSOLE

MANUFACTURER: **ATARI** | YEAR: **1989**

■ **The first ever colour handheld console was a real powerhouse, boasting features like sprite scaling that weren't even possible on most home consoles.** Though it lost out in the marketplace, the Lynx makes it into your list thanks to a series of amazing arcade conversions and some impressive original games.

D Scott Williamson,
Former Atari programmer/designer

Tell us a little about your first encounter with the Lynx, and what did you think about it?

I honestly don't remember my first encounter. Like every game system I've worked with, I remember the discovery phase, that time when you get to play the system and when you read every word of all the manuals. I remember how free form the sprite system with built-in hardware collision detection felt – *Todd's Adventures In Slime World* had character graphics but they squished and squashed and oozed. You could also do 3D like never before with sorted scaled sprites, and I leveraged that in *RoadBlasters* and *S.T.U.N. Runner*.

What was it you liked about coding games for the Lynx?

There was a lot I liked about working on the 'Handy', er, the Lynx. It had good, complete, documentation with lots of examples. The tools were excellent, and I really came to like working on the Amiga [while making Lynx games]. The Lynx itself was extremely capable, especially considering its size and portability – it was 6502-based, like many systems of the day, but it had hardware multiply and divide, bitmapped graphics, powerful sprites, really decent sound hardware, and good tools and samples that got you developing games quickly.

Why do you think your arcade conversions are so popular?

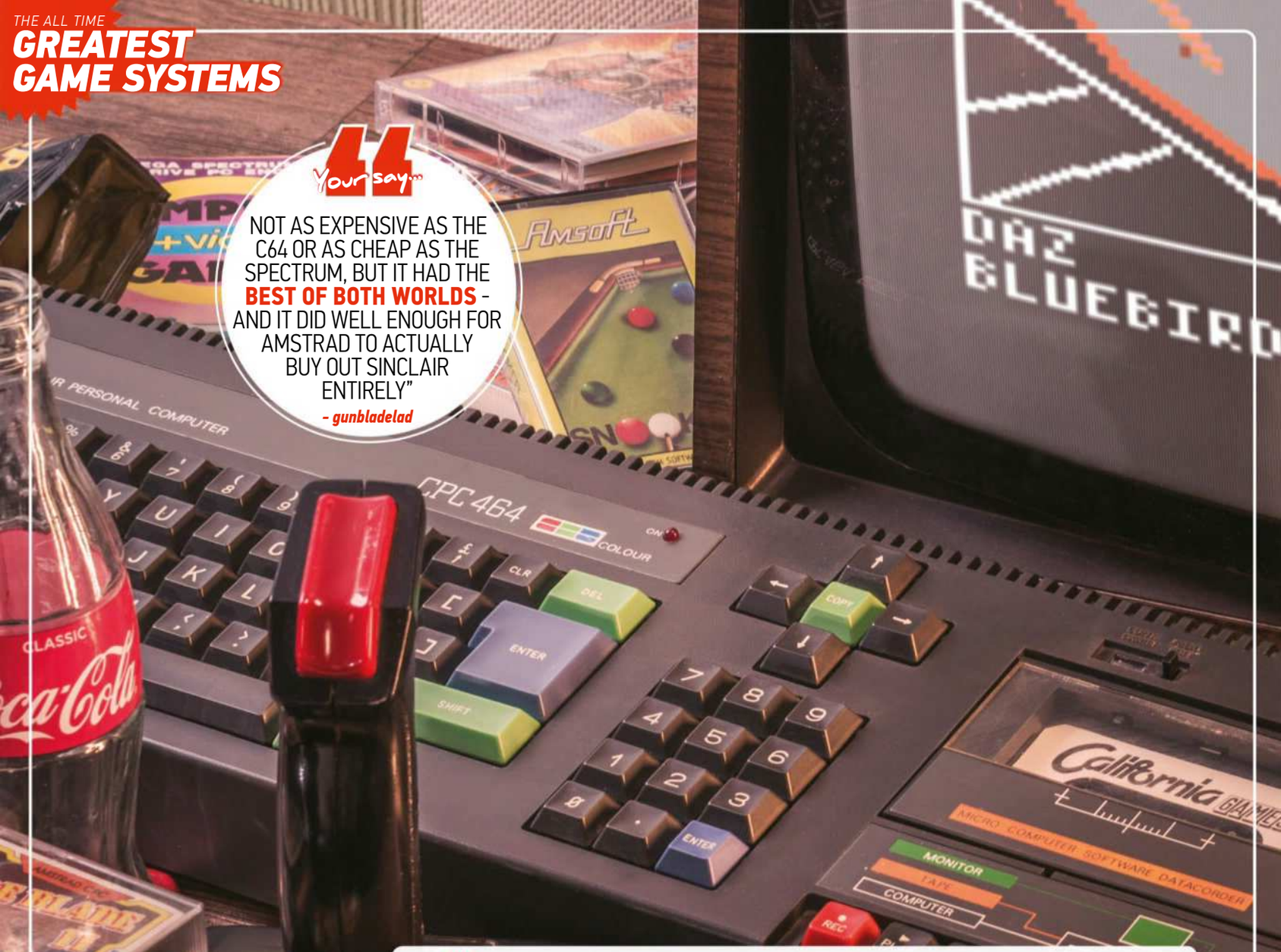
I really can't take credit for the games, all the gameplay was built into the originals. I really like to exploit technology, especially under constraints like limited memory or bandwidth, and I think that is what I really liked about doing coin-op ports. Fitting all the graphics, gameplay, levels, bosses, and sound into a little cartridge that ran on simple hardware was kind of a puzzle.

What do you personally love about the Lynx?

This is a hard one to answer, but I think I really like its versatility, how capable the hardware was at the time and how much it enabled a developer to do.

How do you think it will be remembered years from now?

Gosh, I don't know what I could possibly add after nearly 30 years... it stands out for its time; powerful and fun. A lot of smart people worked really hard to make some great games on it, too.



28 AMSTRAD CPC 464
THE ALL-IN-ONE UNDERDOG

MANUFACTURER: **AMSTRAD** | YEAR: **1984**

■ **Despite being an all-in-one answer to the Commodore 64 and ZX Spectrum, Lord Sugar's machine still found itself trailing behind its peers, which explains why it's so low down on your list.** Having said that, everyone loves an underdog, which probably explains why it still managed to break into your top 30.

Philip and Andrew Oliver,
Former Amstrad programmers

What did you think about Amstrad entering the computer market?

Philip Oliver: We really liked the computer and thought it was a great opportunity for us to make many games on, with far less competition from the top game developers on Spectrum, C64 and the BBC Micro.

How did the Amstrad compare to its rivals?

Andrew Oliver: We loved the real keyboard, disk drive and monitor – it was a very good package for a fair price. Having its own screen meant most people gave it a dedicated setup, and didn't have to contend with a poor quality RF (aerial) signal and fuzzy display. We were quick to buy a plug-in Z80 assembler, called Maxam, that gave us the ability to write very fast arcade-style games in assembler.

So, despite a lot going for it, why do you feel the Amstrad was less popular than its 8-bit peers?

PO: It was less popular than the Spectrum and C64 because it came a couple of years later and was more expensive. But because it was a complete package, most buyers would tell you it was worth the extra, and they were quick to defend their purchase against the more popular Spectrum and C64. Fundamentally, the Amstrad was a souped-up Spectrum, running the same Z80 CPU with a variety of graphic modes and a little more RAM.

How did Dizzy benefit from appearing on the Amstrad?

AO: The Amstrad was a less crowded market with fewer established names. As a result it was easier for the new guys like us to break in – and break in we did! Dizzy was seen by many as the mascot character for the Amstrad, because we always prioritised the Amstrad version to the ported versions as it was always the first and had slightly more colours, no colour clash and better music.

The Amstrad has a vibrant community today, why do you think it still strikes a chord with its fans?

PO: People who bought the Amstrad, had a complete, easy-to-use, computer. There was no sharing of the TV and no messing with cables. It was there to be switched on and instantly enjoyed.

27 3DS NEVER MIND THE GIMMICKS

MANUFACTURER: **NINTENDO** | YEAR: **2011**

■ **The unique selling point of the 3DS, its stereoscopic display, was so inessential that Nintendo could release the 3D-free 2DS without much fuss.** That hardly matters, though – the 3DS overcame a slow launch with games like *Mario Kart 7* and *Animal Crossing: New Leaf*, and its fantastic library alone earns its place on your list.

Chris Seavor,
Designer at Gory Detail and formerly Rare

What did you think about the 3DS when it was first announced?

To be honest, I was slightly sceptical of the 3D element. Not that it wouldn't work, but more to do with what it would bring to a game. Obviously, Nintendo didn't have a good track record with the Virtual Boy, which I remember playing at Rare, and not with fondness, so naturally I was surprised to learn it was trying 3D again. It works pretty well so long as you have the later version which tracks the eye, but I'm still not convinced.

What is it that you love about the 3DS?

Whenever I go on a trip, long or short, the 3DS goes with me. I don't have hundreds of games for it, but the ones I do are little gems I come back to, and tend to be the type of game I only play on the 3DS – JRPGs, *Harvest Moon*, *Monster Hunter*. It's a unique kind of experience, retro almost but not for the sake of it. Case in point is *Zelda: A Link Between Worlds*, which is uniquely 'DS' in both design and play style, a bridge between the games of yesteryear and more modern conventions.

What do you feel the 3DS says about Nintendo as a company?

Nintendo does its own thing and it may not get it right all the time, but it knows what its priorities are. It doesn't care so much about the bullshit rhetoric of the size of the 'Meg-Flops, Jugger-Joops, Blopa-Gobs' nonsense most hardware reveals are primed with, but with the '*why*' is this the way it is? And that is always in service of the software.

What legacy do you feel the 3DS will leave behind?

We already have it. It's called the Switch! I'm being slightly facetious, but really the Wii U was a big DS that didn't communicate what it was trying to do very well. The Switch is essentially the same thing, but with the charm and 'that special something' which the Wii U didn't have. Maybe it just comes down to accessibility and ease of use, but the success of the Switch owes much to the same philosophy and execution that informed the 3DS. It's cute... cute is good.

Fun fact

THE 3DS IS IN 27TH PLACE DUE TO A **TIE BREAK** – IT RECEIVED AS MANY POINTS AS THE PSP, BUT APPEARED IN FEWER OF YOUR TOP TEN LISTS

26 PSP SONY'S PORTABLE POWERHOUSE

MANUFACTURER: **SONY** | YEAR: **2004**

■ **The first true handheld from Sony was a stylish and highly capable portable machine, and it's easy to see why you love it.** Though its release schedule was sometimes patchy and UMD films were always doomed, it boasted amazing bespoke versions of home hits, like *WipEout* and *God Of War,* as well as unique originals, such as *LocoRoco.*

Richard Hill-Whittall, *Founder of Super Icon*

How did you react when you first learned that Sony would enter the handheld market?

To be honest, my relationship with Sony at that point wasn't great. It was at the height of the whole draconian concept approval processes for PlayStation, which we had been battling with on PS2, often at significant cost. While I thought a handheld PlayStation would be amazing from a player's perspective, as a small developer I was expecting a world of pain dealing with the approvals process.

I firmly expected Sony to smash it, though, I expected them to become the handheld number one. And when I saw the actual unit, wow – was it beautiful. It had that wonderful Sony quality; sleek and sexy, something you wanted to own.

How did the system's comparatively high power impact handheld game design?

It offered a lot of flexibility, and a lot more power for 3D stuff. We had developed several 3D games for Game Boy Advance, and that was tough. Getting the performance needed was near-impossible, and left you with pretty poor framerates – our rather choppy *Crazy Taxi* GBA conversion was a testament to that!

Still – compared to PS2 it was still quite a lot less powerful, so we had to rework all assets and chop polys down, and reduce texture sizes. I know at the time Sony were very keen on 3D for PSP, but in hindsight I think it was an incredibly powerful 2D machine – if they had opened up a little more to that, I think in the earlier days of the system we would have seen quite a lot more content.

Do you think the digital-only iteration of the PSP, the PSP Go, was a worthwhile experiment?

I think it was a little too late to make any sort of impact – it also took away one of the key features of buying a PSP in the later part of its life – the chance to pick up a collection of games for bargain prices. However, you did have access to PSP Minis, which I think was a wonderful initiative. Working with Sony at the height of its more indie-friendly focus was just amazing, considering how hard going they had been in the past.

What game do you feel defines the PSP?

I'd say *Grand Theft Auto.* I think this was the ultimate game that Sony wanted to see for PSP – a massive 3D console experience compressed down to fit on a handheld, which still played beautifully. I remember playing it and wondering how the hell they managed to develop it.

Fun fact

THE PSP RECIEVED THE **LOWEST POINTS PER VOTE** OF ALL 30 SYSTEMS IN THIS LIST, MEANING IT MOSTLY APPEARED TOWARDS THE BOTTOM OF READERS' TOP TENS

> Your say...
> I CAME TO THIS LATER THAN THE REST, BUT **NEO TURF MASTERS, SHOCK TROOPERS AND NEO DRIFT OUT** ARE IN MY ALL TIME TOP TEN GAMES ON ANY SYSTEM"
> *- ulala*

25 NEO-GEO AES THE ARCADE COMES HOME

MANUFACTURER: **SNK** | YEAR: **1990**

■ **Legendary for both its price and power, SNK's luxury machine achieved mythical status due to its arcade-perfect games, including a huge number of one-on-one fighting games.** Few can afford to seriously collect Neo-Geo games, but those that do take the plunge quickly become devotees, explaining the machine's appearance here.

Yasyuki Oda, *Producer at SNK*

The Neo-Geo featured powerful, arcade-quality hardware and a high price. Why did SNK choose this approach when designing it?
As you mention, we wanted our fans to play our games at home with the best arcade quality, just as they experienced at their local arcade centre. As a result of this, the prices for both the games and the Neo-Geo hardware were quite expensive.

Why were so many fighting games released on the system?
In those days, the fighting game genre was the most successful genre in terms of profit in the arcade market. As a result of that, the company decided to focus on the development of fighting games. The development team spent most of their time developing games for the MVS system. That meant we did not get many chances to develop other game genres for other platforms.

Why do you think players stayed with the hardware for so long?
We really feel grateful that we were able to continue to release our titles until 2004, and we have the support of our amazing fans to thank for that. Around 2000 to 2003, SNK went into bankruptcy and there was a very distinct lack of both human resources and equipment. Even during that situation, we managed to continue to develop Neo-Geo games for our fans.

Which games do you feel best represent the Neo-Geo as a whole?
In my opinion, it would be *Art Of Fighting*, which released as our first '100 Mega Shock' title.

Why do you think Retro Gamer's readers still think highly of the Neo-Geo?
Neo-Geo simply had a very long production run. We believe the fact that we supported the hardware for so long helped to leave a strong impression on our fans.

Alex Trowers, *Ex Bullfrog designer*

What was your first memory of encountering the Neo-Geo?
It was playing *World Heroes II* at Laserquest in Guildford. Well, that and seeing lovely shots of Viewpoint in magazines. I bought one shortly afterwards when I realised (mistakenly) that my salary would allow me the freedom to buy these games.

Did the Neo-Geo deserve its luxury status?
Absolutely. It was an arcade machine for your home.

Why do you think so many of the system's games remain so desirable today?
Exclusivity. On a related note, if anyone sees a *Samurai Shodown IV* for the Neo-Geo CD at a reasonable price, do please let me know!

What do you think is the Neo-Geo's legacy?
It's got to be the beat-'em-ups. Sure, none of them ever really captured the mainstream attention of *Street Fighter* and the move to 3D really did some damage, but the wealth of characters and interesting systems that still prevail today have to be worth something.

24 PC ENGINE FILLED WITH EASTERN PROMISE

MANUFACTURER: **NEC** | YEAR: **1987**

■ **This tiny console designed, by Hudson Soft, boasted amazing arcade conversions and many excellent shoot-'em-ups, as well as the first CD-ROM add-on.** If its American release as the Turbografx-16 had met success, it could well have done on this list, but importers were more than sufficiently impressed to vote the system in.

John Brandstetter, *Formerly of NEC and Turbo Technologies, Inc*

What were the best things about the PC Engine/Turbografx hardware?

The PC Engine had an amazing small size, and a high performance display processor with the ability to do very large sprites for the time. It was the dominant game system in Japan because it had a huge library of excellent arcade ports – it was the ultimate arcade game console for its time.

How important was it to be the first platform with CD technology?

At Hudson, we had been the innovator of this technology and it allowed us to bring games out faster. Initially, the games benefited from better game audio, and later we had better, bigger games – we could fit hundreds of cartridges of data on a CD. Being first in Japan was a huge success as almost all the best games are CD games in Japan.

What do you think was the main thing that prevented the US Turbografx from achieving the same success the PC Engine had in Japan?

I was in the trenches with this. Money to licence games for the USA was a big problem. Many of the Japanese games that would do very well in the USA today – anime, RPGs, etc – seemed to be a niche, and we survived for a while catering to that niche. But it was very hard to convince marketing at NEC America to do this. We basically had TV and VCR people selling our products.

This began to change when we formed Turbo Technologies, Inc, which allowed us to have our own game-focused sales teams. But this again was a bit of a problem, as TTI was not as well funded as Nintendo and Sega. So, we lost out on big titles like *Street Fighter* and many others. Even though many of these titles existed in Japan and are amazing, being a US division we had to do things separately from Japan and could not offer the cash that Sega or Nintendo could to third parties.

How did it feel to know you were going to be the face of the TurboDuo ad campaign?

Tony Ancona and I had kind of come up with this when we met with our marketing company. We wanted to do a similar thing to what had been done in Japan, as Hudson's hero for the system was Takahashi Meijiin (or Master Higgins). This is how it came about, and Tony and I became the mascots of the TurboGrafx brand. Most people in the industry know me as Johnny Turbo, and I am pretty okay with that.

What are your favourite games for the PC Engine and Turbografx systems?

R-Type, Castlevania, Bonk, Gate Of Thunder, Lords Of Thunder, Bloody Wolf, Gunhed, Legendary Axe, Splatterhouse, Bomberman, Galaga '88 and many more.

Matt Risley, *Artist formerly of System 3 and Argonaut Software*

Could you tell us about your first encounter with the PC Engine?

It all definitely started with my mate Dave Langley. I remember us travelling into London to a shop which sold imports. It was an incredible shop of goodies. That day Dave got a PC Engine and quite a few games. I remember unpacking it and wondering what this little white machine could do. Once we switched it on, I was hooked!

Why do you think games magazines at the time were so excited by it?

I don't think anyone could believe the screenshots in the magazines and that this was an 8-bit machine. We'd also never seen sprites so large before. We had never seen anything like that at home, it was like being in the arcades!

You've got a large PC Engine collection, what is it you like about the system?

It is my favourite console for sure. What I love is the variety of the games, pretty much all of the games were really colourful and beautifully designed.

How do you think it stacked up compared to the home systems of the time?

At the time it was head and shoulders above any system. All my friends had a Master Systems, but once they saw the PC Engine games in the magazines, everyone really wanted it, but I remember many were put off with it being an import and the difficulty in getting hold of the games.

Fun fact

THE PC ENGINE IS THE ONLY MACHINE IN YOUR TOP 30 WHICH **NEVER RECEIVED AN OFFICIAL RELEASE IN THE UK**

Your say...
SO MANY ARCADE GAMES! HOW DID THEY MAKE ARCADE-PERFECT GAMES ON AN 8-BIT SYSTEM?!"
- Treble
PC Engine
COMPUTER + VIDEO
AMIGA
SPECTRUM
BEST-SELLIN
Vol.1

Fun fact

YOU VOTED FIVE SONY SYSTEMS INTO THE TOP 30. ONLY NINTENDO MADE MORE APPEARANCES, WITH TEN SYSTEMS MAKING THE CUT

23 PLAYSTATION 3
PATCHED TO PERFECTION

MANUFACTURER: **SONY** | YEAR: **2006**

■ **It's easy to forget just how poor the launch of the PlayStation 3 was.** It was like buying a house and discovering half the rooms still hadn't been built. Despite the shaky foundations that the console was built on, Sony eventually turned things around in impressive style, paving the way for the success of PS4.

Dan Geisler, *Sony senior software engineer, consultant*

Why do you think the PS3 had so many issues at launch?
One of the most significant reasons was getting actual Blu-ray hardware. At Sony Of America, we got them very late in the game, which caused delays both internally and for external developers. Additionally, Sony Of America developers were not able to know low-level details about the hardware. Sony Of Japan controlled all the releases of the libraries Sony Of America used.

So how do you think Sony turned things around in the end?
When Blu-ray kits became available and development kits became more affordable for developers. Our internal cost at Sony Of America was $800 dollars.

So you'd say Blu-ray was important to the success of PS3?
In my opinion, the PS3 would have flopped if it wasn't for the inclusion of Blu-ray. For many consumers you were effectively buying a Blu-ray player and getting a PlayStation 3 for free.

What was the PS3 like to work on compared to the PS2?
The development environment was virtually the same. The biggest difference was in the speed of the graphics pipeline. Although most launch titles didn't utilise its full capabilities due to the novel complexities of coding for the Cell processors.

Adrian Longland, *Principal engineer at Activision*

What sets the PS3 apart from other machines that you have worked on?
The PS3 was great in that it brought in Blu-ray. Lots of data storage for games and it served as a fancy movie player to boot. Plus it had Bluetooth, which meant reliable wireless controllers for games and no more having to aim the remote at a console buried under the TV! The nice thing about the PS3 from a multiplatform developer's perspective was that it was so similar to the Xbox 360. There is a great book, *The Race For A New Game Machine*, that explains how that came to be.

22 PLAYSTATION 4
THE EMPIRE STRIKES BACK

MANUFACTURER: **SONY** | YEAR: **2013**

■ **After losing its dominance of the console market with the complex and multimedia-focused PS3, Sony returned with a strong games-first system that has put it securely on top.** Games like *Bloodborne*, *Horizon Zero Dawn* and *Uncharted 4* have endeared it to players, and its relatively affordable virtual reality headset is currently gaming's coolest peripheral.

John Gibson, *Former principal programmer at Evolution Studios*

What did you enjoy about working on the PS4?
Its astounding graphics capability. That really made it stand apart from the Xbox. Also, the machine was much easier to program than the PS3 because Sony had abandoned the PS3's convoluted Cell architecture in favour of a PowerPC. With the PS4, Sony had finally produced a games machine that could be programmed entirely in a high-level language.

Of your PS4 work, what are you especially proud of?
Driveclub is the only PS4 title I worked on so it's the only title I can be proud of... but I really am proud of it! It suffered from some bad design decisions to start with but the eventual outcome was a masterpiece which I believe couldn't have been achieved on anything other than the PS4.

You have been coding since the 8-bit days, how would you rate the PS4 in the great scheme of things?
The PS4 was the last games machine I worked on and the best. My 32 years in the games industry may seem like a long time but it still astounds me that in such a short time we've gone from the ZX Spectrum to the PS4.

As a programmer, are things really so different from the Spectrum days?
Programming is all about problem solving, so the computer and the computer language are really irrelevant until such time as you come to implement the solution. That's when a PS4 is preferable to a Speccy! The former is so powerful that you can implement your solution in any way you wish, whereas with the Spectrum you have to find a way that is memory efficient and uses the least instructions.

Is there any PS4 game you wished you'd got to work on?
Grand Theft Auto, maybe. The PS4 game I really would like to have worked on is one that has never been made: LucasArts' *Monkey Island*. I'd love to see that brilliant game as a visual delight on PS4.

Your say...

THE PS4 IS **THE GIFT THAT KEEPS ON GIVING** IN MY OPINION. COUNTLESS CLASSICS IN SUCH A SHORT SPAN OF TIME, AND MY FAVOURITE GAME OF ALL TIME, ROCKET LEAGUE. IT'LL BE A CONSOLE I'LL REMEMBER FONDLY IN 20 YEARS"

- Theholyhogg

21 XBOX BIG IS BEAUTIFUL

MANUFACTURER: **MICROSOFT** | YEAR: **2001**

■ **Microsoft's debut console was powerful and had incredible financial backing, but never became a market leader.** Regardless, the console found an audience that champions it to this day, thanks to the allure of gaming over broadband on Xbox Live and games like *Halo, Fable, Ninja Gaiden* and *Project Gotham Racing*.

Seamus Blackley, *Xbox codesigner*

You previously mentioned that Microsoft jumping into the console market was "fucking ludicrous", so how do you think it all worked out in the end?

It worked out because it was pure. Up until the thing got approved and we really started staffing up, Xbox was less than ten guys, all passionate gamers who knew this was going to work – we clearly saw this was going to work, it was not in question. It was like the kind of fervour you can usually only get from religions. We would literally go through schedules and be like, 'Hey, Craig Mundie is having a meeting about a consumer device and there's a budget for it,' and we would just turn up to the meeting with our demo, uninvited. We learned every Microsoft building and sampled every cafeteria, and drove around in our various cars – I had a red pickup truck, because our demos were pretty big, and we'd put it in the back and ride around with everyone in the back of the pick-up, even in light rain. It was absolutely renegade.

I remember going with Kevin [Bachus] to Tokyo Game Show, we rode the train in and when we got out, the entire train station was plastered with Xbox logos. We got there and we just started crying. It was the DirectX Box and then the Xbox and had this silly X logo and it's all in this colour green, because Horace Luke only had green left after everyone stole his markers. We're remembering all of these fucking improbable things, and all the guys telling us it wouldn't work in Japanese publishers and US publishers, and Microsoft guys trying to shut it down. And then we're in a subway station in a foreign country and it has this logo which is like a joke to us, but it's everywhere and it's a serious thing. It was absolutely crazy. I still don't quite believe it.

Fun Fact

READERS WHO VOTED FOR THE XBOX, WERE 50% MORE LIKELY THAN AVERAGE TO VOTE FOR THE XBOX 360 AND XBOX ONE

Your say...

MULTIPLE CONTROL METHODS, AND LOTS OF GREAT GAMES. ALSO, IT DOUBLES AS A GAMECUBE, AND THE VIRTUAL CONSOLE ALLOWS OWNERS TO DOWNLOAD MANY RETRO GREATS. **THE WII WAS MORE THAN JUST A GIMMICK**"

- pratty

20 WII NINTENDO'S REVOLUTION

MANUFACTURER: **NINTENDO** | YEAR: **2006**

■ **It's easy to forget that Nintendo's home console sales were on a continuous downward slide before the release of its Wii system.** Moulded around a unique, instantly accessible controller and bolstered by robust motion technology, the Wii delivered a gaming experience that no other system of the time could compete with and proved the company was still a force to be reckoned with.

Sam Barlow, *Writer, Silent Hill: Shattered Memories*

What did you think about the Wii when it was first revealed to the world?

I remember being psyched – that first reveal trailer where they didn't even show the TV screen, just the people swinging their arms around – it looked so different! And you could see what an easy sell it was from the reaction when everyone saw it.

How important was the motion controller to the Wii's success?

I think it was a huge part. It was a controller you didn't have to explain and it was fun to hold and it didn't look like a big complex piece of plastic. I still miss it today – it's easily my favourite game controller. The Nunchuck and Wii Remote combo made for such a great core setup. I'm pleased the Switch borrowed that element with its Joy-Cons.

How do you feel *Silent Hill Shattered Memories* benefited from releasing on the Wii?

It was everything. We built the whole game around the machine. We wanted to make a game that was accessible and different, and having the core movement and camera be based on the remote pointer playing the part of your flashlight was amazing. We wanted the puzzles to be simple but tactile, and the motion controls and pointer and remote speaker allowed us to make those moments feel like you were reaching in and touching the world. We had fun with the remote speaker to allow you to also use the remote as your phone and actually this unlocked the idea of losing all the game UI and building it around an in-fiction phone – which was another way to further immerse you in the world.

Years from now, how do you think the Wii will be remembered?

Clearly it was with the Wii that Nintendo really broke with the pack. After the Wii there was no going back to parity between the different platforms and we all knew that Nintendo was doing its own thing in the face of an industry that was moving in all sorts of directions. We live in a world where the majority of games are made for people who aren't 'hardcore gamers' and I think Wii really showed people and reminded people that making games for human beings in general is possible and ultimately more rewarding.

19 MASTER SYSTEM
THE ARCADE MASTER

MANUFACTURER: **SEGA** | YEAR: **1985**

■ **During the late Eighties, Sega carved out its own slice of the console world with conversions of hot arcade games including *Hang-On*, *Shinobi*, and *Wonder Boy*.** This powerful 8-bit system was particularly popular in Europe and South America, and survived well into the Nineties as a cheaper alternative to the Mega Drive.

Mark Cerny, *Former Sega programmer/designer*

You spent some time at Sega working on the Master System, Mark, what do remember from that period?

For me, when I think back to the Master System, what I remember is... *fun*! I transitioned from arcade games to console games just as it was coming out, so it was the first console I ever programmed. It was amazingly fast to get up to speed on it – the manual was a few dozen pages of handwritten instructions, and there were *so* many tricks you could use once you had familiarity with the hardware.

Of course, the rest of the world was more focused on playing the games than creating them. The Master System did have a broad collection of games, from quirky to outstanding. Some of these titles, such as *Alex Kidd*, were created by names you probably wouldn't recognise today. But the Master System was also the training ground for huge talent, such as Yuji Naka. If memory serves, he was responsible for the ports of Sega's biggest arcade titles while still finding time for amazing original work, such as *Phantasy Star*.

After I pitched the Master System's 3-D glasses to management and prototypes were floating around the office, I came back from the new year break to find that Naka had programmed a full blown 'canyon run' flight simulator, in 3D! Quite impressive. The only bad news being that in order to keep the framerate up, he had to shrink the size of the screen to the point where the graphics were just a postage stamp-sized area in the centre of the TV, and the rest was black. He volunteered that it was a bit too small, asked if I shared his opinion, and then reluctantly dropped the project. What a talent, though!

Your say...

MY FIRST CONSOLE. I USED TO BE JEALOUS OF MY MATE SO BEGGED MY PARENTS FOR ONE. SONIC IS STILL BETTER ON THIS THAN THE MEGA DRIVE"

- kebabinho

18 DS YOU'VE GOT THE TOUCH

MANUFACTURER: **NINTENDO** | YEAR: **2004**

■ **It may have started off a "third pillar" for Nintendo, but the DS's innovative design, strong marketing and quirky-looking games meant the handheld outsold the combined totals of both the GameCube and Game Boy Advance.** It effortlessly captured the casual market that had eluded Nintendo since the release of the NES and arguably paved the way for the widespread obsession with mobile gaming today.

Bill Harbison, *Former 8-bit graphic artist, artist on Sonic & Sega All-Stars Racing*

How were you introduced to the DS?

It was when a bunch of guys I worked with decided to go out at lunchtime to buy the new DS with *Mario Kart* so we could play multiplayer games in the studio. It was a great game to play in a group and it took over our lunch breaks for many weeks.

Why do you think the DS become so incredibly popular?

Not only did the DS have many great games but also it was easy to hack. One could simply go on eBay and buy an R4 card which you could fill up with emulators of other systems from the SNES right back to the ZX Spectrum and C64. While this must have taken its toll on Nintendo, it didn't seem to worry them too much.

What was it like creating games for the DS?

I guess developing games on the DS was similar to the N64 with its low polycount for models and its tiny texture size. I remember trying to use as few textures as possible and mainly use single colours on models. We couldn't see our graphics directly on the screen and had to upload them so that the programmer could create a build maybe once a day.

Do you think the DS contributed to the rise in casual gaming?

The DS made a huge contribution to casual gaming as it had titles that non-gamers could enjoy, like *Brain Training*. I was surprised to find out that an older member of my family had bought a DS and was a fan of the *Professor Layton* games. It was the first time she had bought a gaming system and she bought it just for these mystery games. Even my mother used to play *Solitaire* and *Dominoes* on my DS and it was because there was no button pressing, everything could be done my touching the screen with the stylus.

Your say...

"I WAS NEVER A HUGE NINTY FAN UNTIL THE DS CAME ALONG AND STOLE MY HEART, **WHAT AN AMAZING HANDHELD**, IT WAS GAME & WATCH DAYS ALL OVER AGAIN, BUT V2.0. BRILLIANT"

- ncf1

Your say...
MY FIRST REAL LOVE. AFTER THE PONG CLONE, TO HAVE A VCS WITH SO MANY ARCADE GAMES AT HOME SEEMED LIKE LUXURY AND THE FUTURE"
- kiwimike
Q*BERT™
ATARI® 2600™
game program™
adventure
CX-2613-P
3 SKILL LEVELS
Program © 1980 ATARI, INC.
Use with Joystick Controllers
ATARI®
Fun fact
VOTING FOR OTHER ATARI SYSTEMS WAS 45% HIGHER THAN AVERAGE AMONGST THOSE WHO INCLUDED THE ATARI 2600 IN THEIR TOP TENS

17 ATARI 2600 THE BIRTH OF AN OBSESSION

MANUFACTURER: **ATARI** | YEAR:**1977**

■ **The oldest machine to make it into your list was a phenomenon, selling millions and remaining viable for over a decade.** Atari's power in the arcade industry provided the system with ready-made hits, and the company innovated by licensing additional games from its arcade rivals, including the million-selling *Space Invaders*.

Nolan Bushnell *Atari Inc cofounder*

Are you surprised the Atari 2600 continues to attract attention today?
I am somewhat surprised, although the games for the Atari 2600 were well designed, even though the graphics were primitive.

Did the Atari 2600 achieve everything you set out to fulfil at the time?
It heavily exceeded my expectations. When the system was initially designed we thought it would get up to 20 cartridges at most and I felt the machine would have a three-year life. We thought it would need to be replaced with better hardware and more memory within that time frame. Warner thought it was a record player and it only wanted to focus on cartridges.

Of all the games for the Atari 2600, which were your personal favourites?
I really liked *Combat* and later on I enjoyed *Pitfall!* – even though it was not an Atari label game. *Combat* was the most successful.

What tricks could the Atari 2600 pull off that set it apart from its rivals at the time?
We had no real rivals until much later, but the platform was amazingly flexible.

What aspect of the machine's development did you most enjoy?
I enjoyed the early design aspects. The trickiest part was keeping the costs down to be able to hit sub-$200.

What do you think about the plans to launch a new Atari console – the Ataribox?
It's predictable. I'm happy to see the brand has traction.

Allan Alcorn *Designer of Pong*

What do you think makes the Atari 2600 so revered today?
Few consumer products can claim a dedicated following for 40-plus years. I think it is still loved due to it being the first popular game platform and because many new games were first on that platform. It also helped that the initial design goal was to have the lowest manufacturing cost.

We think we know the answer, but as a project, would you say the Atari 2600 was a success?
The Atari 2600 was a very successful project. The hardware architecture was very cost effective, the programming model was very primitive and the machine met FCC emission rules. But it had greater flexibility than we expected as well.

What did the Atari 2600 have that made other games systems shiver in fear?
There was no frame buffer and there was very little support hardware, so it meant the programmers could be more creative.

We asked Nolan this and he said *Combat*... what's your favourite Atari 2600 game?
My personal favourite game for the Atari 2600 is *Chess*. It was technically very challenging to create a very good chess algorithm in 2K of ROM and 128 bytes of RAM, and displaying that many objects on the screen. It was probably our least successful game, though.

Let's go back to when you were making the 2600, what was your standout achievement back then?
My most biggest achievement on the project was putting the teams together of 'all-A' players. Steve Mayer and Ron Milner created the prototype in three months, while Jay Miner led the chip effort. We also had the top product team from National Semi which was led by John Ellis.

Has anything else come running back to you?
I remember going over to consumer engineering on Monday mornings to see who got injured that weekend, because most of the hardware engineers were into motocross and would often break and arm or leg.

16 PC THE ETERNAL PLATFORM

MANUFACTURER: **VARIOUS** | YEAR: **1981**

■ **As home consoles rise and fall throughout countless generations, the PC remains a constant in the market, through big-boxed floppy disk games to today's era of digital distribution.** For many of you, the era that evokes the most nostalgia is that of DOS games running on 486 processors, but we're celebrating everything to do with PC here – all the way through to digital platforms like Steam.

Wright Bagwell,

Formerly of EA, Visceral and Valve

What one game made you realise the importance of PCs as a platform for videogames?

Quake was the game that brought us all into the future, and showed how so many emerging technologies could come together on an open platform to do something revolutionary. I loved playing *Quake*, but I enjoyed making content for it on my PC and sharing it with the world even more.

Why do you think the 486 era is so popular with our readers?

Why is the 486 so well loved? I'm not really sure, because my first PC was actually a 486. My money is on *Doom* being the driver of its popularity.

What developers do you feel define the PC as a gaming system?

Today, Valve, Epic, Bethesda, Mojang, and Riot are the companies I most closely associate with the PC – they're companies that embrace user-generated content, and the idea that the content that players generate and share is the most valuable part of their business.

What is it that you personally love about PCs?

I love that PCs are an open platform for developers to build whatever they're interested in. It's where all the cutting-edge software and hardware shows up first, the hardware is the most powerful, and the communities are far more passionate than any other.

Michael Latham,

Formerly of Activision and Sega

Why has the PC been your most-played platform?

One of the key moments that made me want to make games was when I when into a computer store and saw a IBM PCjr, a horrible computer, playing *King's Quest* from Sierra. My mind was blown! I'd never seen details like that. There were small touches of animation going on all around the background, unlike any game I had seen. The story was movie level. I was seeing the proto-*Assassin's Creed* and *Uncharted*. My first PC was a Compaq Portable with a green monochrome screen, and I played a load of games on it that I loved. From there, it was upgrade after upgrade, PC gaming just got better. Now it's so good it threatens to push out consoles, which are being hit from the PC and mobile side. It's also the best solution for VR/AR gaming right now.

Fun fact

THE PC IS THE FIRST MACHINE SO FAR TO HAVE AN AVERAGE OF **OVER SIX POINTS PER VOTE**, AND THE ONLY MACHINE OUTSIDE OF THE TOP TEN TO HAVE AN AVERAGE SO HIGH

Your say...

THE ULTIMATE 2D GAMING PORTABLE DEVICE. THE CATALOGUE IS **FULL OF CLASSICS**, AND THE SP'S SCREEN IS BRILLIANT, ESPECIALLY ON THE RARER AGS-101 MODELS"

- Alix Bergeret

15 GAME BOY ADVANCE

2D GAMING'S LAST HURRAH

MANUFACTURER: **NINTENDO** | YEAR: **2001**

■ **It's easy to forget that the Game Boy Advance was succeeded by the DS within four years, such is the number of great games released on the system.** The 32-bit handheld was an oasis of 2D gaming in an industry that had embraced 3D graphics, and hosted many retro conversions.

Steve Lycett, *Sumo Digital*

How much of an improvement did you feel the Game Boy Advance was over the Game Boy?

I always thought of the original as a portable monochrome NES, and at first glance, the GBA appeared to be a portable SNES. Early games suggested that, like *F-Zero*; but as developers got to grips with the system, it proved to be quite a step up. It was reasonably capable of 3D as *Doom*, *Crazy Taxi* and Stuntman proved, but it was 2D of course where the system shined, and with loads of sprites, smooth scrolling and transparency effects, it was starting to border on PlayStation quality!

Do you feel the SNES conversions overshadowed the original games?

It was a bit of a wonder to be able to play *Super Mario World* on the go for sure! However, this is a system that spawned *Advance Wars*, *Mario Superstar Saga*, plus the connectivity that gave you four-player *Mario Kart* and *Zelda Four Swords*, Nintendo was really pushing multiplayer in a way others weren't.

What game best sums up the system?

Tough question, it's home to many classics. Probably my favourite game was *Castlevania: Aria Of Sorrow*, as Konami was really firing on all cylinders. This was a game as good as the PlayStation *Symphony Of The Night* in all respects, especially on the audio front, running on a system that fit in your pocket and ran on two AA batteries!

Do you remember when you first got your GBA?

I actually secured mine from Nintendo before the UK release. Except... of course it didn't come with any games! So I had to buy imports of *F-Zero* and *Castlevania: Circle Of The Moon* which, not speaking a word of Japanese, made it quite interesting to play the games!

Which is your favourite GBA model and why?

I loved the feel of the original, but the GBA SP is where it is at. You could actually see the games! No more needing to get a chair near a window so sunlight could illuminate the screen. It's a shame about the headphone port (and yes, I did buy the adapter). Honourable mention must go to the GBA Micro, but my eyes were never quite up to it!

14 SATURN GAMING FROM ANOTHER WORLD

MANUFACTURER: **SEGA** | YEAR: **1994**

■ **Non-fans might remember the Saturn as a flop, albeit one with great conversions of *Virtua Fighter 2* and *Sega Rally*, but the console's diehard fans knew something the general public didn't – Japanese imports were where the real action was.** That international appeal accounts greatly for the Saturn's strong showing on your list.

Jon Burton,

Founder of Traveller's Tales

What were the strengths of the Sega Saturn?

In my mind, the strengths were that it had a lot of separate chips that you needed to work hard to get the best results. Anything that put off lazy developers left a nice advantage for us to exploit.

What is it you personally love about working on the system?

I loved thinking up ways to get the best out of the hardware. The chip diversity gave you lots of options on how to tackle a problem, and so you could create really novel solutions. For instance, you couldn't make transparent polygons (well, you could but the hardware corrupted them), but I figured out a completely different way of doing it so we had several stages of transparency to fade out polygons in the distance.

What was it like making the only new *Sonic* games for the system?

Both games had such tight deadlines that it was more of a time pressure than a, 'We're making *Sonic* games!' pressure. We knew we were helping Sega out of a bit of a *Sonic* hole left by *Sonic X-treme*, so we didn't really feel the pressure of making a *Sonic* game so much as getting it finished on time.

What's your best Saturn-related anecdote?

I always liked to impress Sega with a cool new effect each time they visited, so I worked really hard on making amazing reflective water for the first track in *Sonic R*. On his next visit I proudly let our producer Kats Sato play the newly polished level, and he didn't even notice it had changed... gutted!

Yu Suzuki,

Formerly of Sega, founder of YS Net

Why was the Saturn so great for 2D games?

I think that was due to the good balance the machine had for distributed processing. The setup did not put a burden on program processing, etc even if you did not pay attention to the graphics or sound.

What was it like to code for?

My design philosophy extended to all facets of the system so writing code for it was fun.

What is it that you love about the Saturn?

Using any one system did not adversely affect other systems through reduced functionality, so you could program without that worry.

What memories do you have of coding *Shenmue* on the Saturn?

Going into 3D functionality development, we did a variety of basic experimenting to push the limits of what we could do. It was thrilling, and my pulse was pounding the whole time through development.

What game do you feel defines the Saturn?

I think that would be the *Virtua Fighter* series. After the title launch of *Virtua Fighter,* the year after we came out with *VF2* which sold a record 1.7 million copies.

Why do you think that the Saturn remains so popular with our readers?

I think that was because the hardware itself sold well, and over 1,000 titles came out for it, giving players increased choice.

Fun fact

SEGA'S THE SECOND MOST POPULAR HARDWARE MANUFACTURER AMONGST OUR READERS – ITS CONSOLES ACCOUNTED FOR 18% OF ALL VOTES CAST, BEHIND ONLY NINTENDO'S 33%

"Your say..."

THIS WAS MY FIRST NON-PORTABLE NINTENDO CONSOLE – I BOUGHT IT FOR ZELDA: THE WIND WAKER, AND LOVED FOR THE REST OF THE GAMES. LIKE THE DREAMCAST, **IT HAD A CATALOGUE OF GREAT GAMES** THAT WAS EASY TO COLLECT"

- smac

13 GAMECUBE NINTENDO'S PURPLE PATCH

MANUFACTURER: **NINTENDO** | YEAR: **2001**

■ **Nintendo struggled to fend off Sony and Microsoft in the market, but players had little reason to care.** With excellent new *Mario* and *Zelda* games, as well as *Metroid*'s first-person rebirth, new games like *Pikmin*, and third-party efforts like *Resident Evil 4*, there was no shortage of classic games to play.

Mike Keith,
Former programmer at Factor 5

What was the GameCube like to code for compared to its peers?

Nintendo knew from the outset that they had to provide a great developer experience if they were to have a chance at regaining market share. The GameCube was a very elegant, clean and powerful architecture with a good toolset. It's a shame Nintendo had to downclock the Flipper graphics chip at the last minute – prior to that *Rogue Leader* was running at a rock-solid 60fps.

How important do you think the GameCube was to developers like Factor 5/LucasArts?

It was hugely important for us at Factor 5. In addition to delivering a key launch title, we worked closely with Nintendo during the development of the machine, particularly on the audio side. Our MusyX system was the official audio middleware. LucasArts struggled with consoles, but *Rogue Squadron* for the N64 had been a real success and hopes were high for the sequel. Thankfully the GameCube got off to a good start and *Rogue Leader* along with it.

Do you have cherished memories from that time you want to share with our readers?

Perhaps my highlight was E3 2001, where we were one of the standouts of the show. The buzz was electric – I lost count of how many times I overheard someone say, "Oh my god, have you seen *Rogue Leader*!?" Meanwhile, the Xbox was somewhat underwhelming, with a certain FPS suffering from a poor framerate due to hardware issues. We left feeling pretty cocky about the situation... and, of course, we know how that turned out!

Why do you think the console is so collectible at the moment?

At the time grim, gritty games were all the rage, and the GameCube got branded as a 'toy' which – for some reason – was considered a bad thing. This meant a lot of gamers overlooked it, and in doing so they sadly missed out on a truly impressive library of fantastic games, which many people are only now discovering.

What makes the GameCube stand out amongst other machines in this list?

It was a console that combined technical prowess with a focus on gameplay, that didn't take itself too seriously and had a healthy sense of playfulness. It was a wonderful machine for developers and game fans alike.

12 GAME BOY PORTABLE PERFECTION

MANUFACTURER: **NINTENDO** | YEAR:**1989**

■ **Nintendo's greyscale great is your favourite handheld, and we'd imagine longevity was a key factor in more ways than one.** Not only was the machine a fixture throughout the Nineties, thanks to great games, but its modest hardware made it cheaper to run than the colour handhelds it competed with.

Jas Austin, *Former programmer at Martech and Bits Studios*

What was the Game Boy like to code for compared to 8-bit micros?

I found the transition fairly straightforward. I had previously coded on the ZX Spectrum and the Game Boy was also based on the Z80 processor. It did, of course, bring some unique new challenges, mostly with the Game Boy's hardware support. It was the first time I worked on a machine that had the luxury of hardware sprites and scrolling. Not to mention the daunting task of my first game being the iconic shooter *R-Type*.

Was there anything else you liked about it?

I feel its strengths lie mostly in its simple design, both for the player and us developers. While it did have hardware support for scrolling and sprites, it was pretty basic. This forced us coders to think outside of the box to get the most out of the machine. For example, even though I didn't end up writing the game, I put together a demo level for *R-Type II*. I chose the third level, with the two huge spaceships. They were way too large to display as sprites, so I utilised the hardware's vertical blank to create a floating raster line to enable me to have two separate scrolling areas on the screen.

Which game do you wish you had made and why?

Oh, that's an easy one – it would have to be the mighty *Tetris*. Such simple and elegant gameplay to produce the most addictive experience. The Game Boy was the perfect home for it, being able to get your quick fix while on the move, or even on the toilet.

Why was it such a popular system?

I would put this down to the fact that it was a truly portable games system. Around the same time there was also the Game Gear, and while it had superior graphics with its full-colour screen, this also caused it to have terrible battery life. Nintendo clearly saw the importance of playing time, even over graphical quality. Not forgetting it also had some fantastic games – *Zelda*, *Mario*, *Metroid*, *Pokémon* and *Tetris* to name but a few.

Richard Spitalny, *President of First Star Software*

So was it love at first sight?

My memory is that I first saw the Game Boy at CES. I loved it *immediately*! There really wasn't anything like it at the time, and it felt great. Finally, here was a handheld that let you switch cartridges so you could play different games!

Why do you think the system become so popular with non-gamers?

There were not lots of intimidating wires or controllers. Its controls extremely simple, and the games were bite-sized bits of entertainment that could be picked up and put down after a few minutes, or played for an hour or so.

Even though the Lynx was released at about the same time and had colour, the Game Boy crushed it. Not only were there better games for Game Boy, but I think that there were too many controls for 'most of us'. The Lynx seemed more targeted at 'gamers' versus the masses.

Why do you feel classic 8-bit games like *Boulder Dash* worked so well on the system?

Boulder Dash and most of the classic 8-bit games relied on innovation: clear and simple game mechanics, straightforward controls and well-designed levels and gameplay. The games were not reliant on superfluous graphics or stories. Thus, they didn't lose much when presented in that funky green, black and white. Finally, the fact that one only needed to move in four directions meant that the Game Boy's controls were perfect and supported the precision movements that were required.

What is it you love about the system?

You could carry it with you anywhere. *Tetris* and the other launch titles, like *Tennis*, were wonderfully engaging and easy to learn and play. The dot matrix screen presented graphics that were crisp and well defined. It's perfect for playing the simple types of games I really enjoy the most.

Fun fact

14% OF THE TOTAL VOTES WERE ATTRIBUTED TO HANDHELDS. FOR COMPARISON, HOME CONSOLES RECEIVED 68% OF THE VOTES AND HOME COMPUTERS HAD 16%

Your say...
NOT INCLUDING A SECOND-HAND COMMODORE, THIS WAS MY FIRST GAMING SYSTEM BRAND NEW. IT DIED FROM OVERUSE AND HAD TO BE REPLACED SEVEN YEARS LATER!"
- RetroMartin
POWER
Super GAME BOY
DOT MATRIX WITH STEREO SOUND
SCORE
755
LEVEL
0
LINES
3
BATTERY
Nintendo GAME BOY™
B
SELECT
START
NOV#2

Your say...

STILL CAN'T BELIEVE HOW MUCH **GAMING GOODNESS** CAN BE PACKED INTO A DEVICE SO SMALL WITH TECHNOLOGY FROM 35 YEARS AGO"

- the_hawk

11 ZX SPECTRUM BEST OF BRITISH

MANUFACTURER: **SINCLAIR RESEARCH** | YEAR: **1982**

■ **Sir Clive Sinclair's 8-bit marvel was a huge success in the UK and helped lead the gaming revolution that started off in bedrooms up and down the country.** Many talented developers, from David Perry and Matthew Smith to the Stamper brothers were linked to machine, while huge companies, like Codemasters and Rare, built their early businesses off the humble 8-bit micro. Little wonder, then, that it's placed so highly in this list.

Steve Crow, *Former ZX Spectrum programmer*

How important was the Spectrum to your career?
The ZX Spectrum was absolutely fundamental in launching my career. My first professional game, *Laser Snaker*, was published for the Spectrum. After that, as I continued to progress as a game creator, the Spectrum was the ideal platform to create large expansive games and was always the machine I developed my games on.

What was the Spectrum like to code for compared to its peers?
Compared with C64/Atari 800 the Spectrum had virtually no built-in graphics or audio hardware, such as sprites, audio chip or any form of hardware screen scrolling. However, it had one advantage: a faster processor with some pseudo-16-bit operations. This made it like a blank sheet to work with, as everything had to be done in software. It was up to you, the programmer, to write the fastest sprite routine or create great sound and music from a speaker that could only be moved in or out! This made it a great challenge to work on and also very rewarding at the same time.

What is it you personally love about the Spectrum?
It is such an iconic design – it doesn't look like any other personal computer – with its rubber keys, rainbow stripe and all the basic words accessible from key combinations truly a unique and efficient design.

Why do you think the Spectrum has such a vibrant following after all these years?
It was the right PC at the right time. It was affordable to the average family, had fantastic games available and gave so many of us such wonderful memories of our childhood. Saving up your pocket money and then the excitement of loading up and playing the latest game to come out! I think it is that feeling of reliving those times and all the memories associated with them that keeps the ZX Spectrum so popular today.

10 NES THE EVERGREEN FAVOURITE

MANUFACTURER: **NINTENDO** | YEAR: **1983**

Even though it fared poorly in Europe that hasn't stopped Nintendo's console from powering its way into your top ten. We'd argue that its inclusion is down to the enduring nature of its excellent library of games, the fact those games are accessible on so many modern systems and that the console laid the foundation for some of Nintendo's biggest franchises, some of which are still going strong today. Hey, maybe it's not such a surprise after all.

Chris Crawford,
Videogame designer

Can you recall your very first encounter with the NES for us?

My earliest memory of the NES was playing *Super Mario Bros.* on the family TV right after my dad set everything up. I'd seen it in advertisements, but not up close – and, wow, it didn't disappoint. It had taken some time convincing my parents that our family's Atari had become a relic, and that the NES was the wisest investment they could possibly make. Thankfully, they finally listened to reason.

The NES quickly established its place in my and my friends' minds as the replacement system for all those aging Atari 2600s most of us still had. By the time I was negotiating for a NES in 1986, the Sega Master System had launched in the US, but it was too late – all the kids in my peer group had already declared for the NES. It wasn't just timing, though. Nintendo was also producing much better original titles than what Atari and Sega could muster (it's tough to compete with Shigeru Miyamoto), and top-tier developers like Konami and Capcom were making their own classics for the system.

Sounds like you took to it instantly! Was there anything else that made you fall in love with it?

The graphics were a big leap, but what really sold me on the NES was the gameplay. The games felt so responsive, and their worlds were massive. There were some exciting peripherals, too. Lightgun games were unheard of outside of arcades, and while R.O.B. the robot might not have been very practical (or even very fun), he seemed impossibly advanced back then. Even the controllers felt high-tech – we'd never seen anything like them. The NES inspired me to design videogames of my own for the first time, which eventually steered me to my current profession. I used to sketch out levels and characters for my own *Zelda*-esque adventure games, and my brother Kyle and I would incorporate ideas and characters from NES games into our own imaginary worlds. It was a really inspiring and fun time.

Yoursay...

"THE SYSTEM THAT I GREW UP WITH AND **MADE ME FALL IN LOVE WITH GAMING.** SO MANY GREAT FRANCHISES STARTED HERE"

- Nathan Riggins

9 XBOX 360 THE MODERN CLASSIC

MANUFACTURER: **MICROSOFT** | YEAR: **2005**

■ **Microsoft's second console launched us into the HD era and set the tone for every console that followed.** Downloadable content and download-only games became a big deal, and the thrill of hunting for achievements was introduced. Despite rampant reliability problems, the Xbox 360 became the newest console in your top ten.

Jon Hare,

Founder of Sensible Software and Tower Studios

What is it you love about the Xbox 360?

I cannot say I truly 'love' any of the more modern consoles, but if I have to choose a machine from the last ten years or so then this is the one. It simultaneously brought a technological leap, better controllers and an unparalleled, persistent online gaming community to the forefront of a machine in the way no one else had quite managed before.

What impact do you feel Xbox Live Arcade had?

Xbox Live Arcade is the first online console community that allowed sharing and progression between titles in an elegant way. In many ways it is still unrivalled, although one suspects it is about to change within the next few years.

What's your favourite memory of the Xbox 360?

My best memory is of playing *Skyrim* to death a few years back.

Why do you think the Xbox 360 is the highest-rated modern console in our list?

I think it has found the best balance between quality of graphics, library of games, quality of gameplay and sense of online community and ongoing account as a player.

Shinichi Ogasawara,

Sega Amusements International

What do you think are the best things about the Xbox 360 as a piece of hardware?

It was absolutely like an evolved Dreamcast. Its network capabilities and sheer graphical power completely destroyed and changed the arcade industry.

Did you experience the 'Red Ring Of Death' failure? If so, did it change your view of the Xbox 360?

Yes I did, but I didn't mind it too much.

The Xbox 360 had lots of support from Japanese developers, but the system itself still didn't sell well in Japan. Why do you think that is?

It's a good question. I always say, 'Xbox series smells like teen Sega spirit in Japan.'

Why do you think the Kinect peripheral was so popular for the Xbox 360?

Mmm, I don't think so – at least, not in Japan. Kinect's sensor range was not suitable for Japanese room sizes, as it is too close to sense movement. But if it is popular, I believe players wanted to be Tom Cruise in *Minority Report*.

The Xbox 360 had a lot of games released for it can you tell us a few of your favourites?

Call Of Duty: Modern Warfare and *Modern Warfare 2*, *Geometry Wars: Retro Evolved*, *Burnout Revenge*, *Red Dead Redemption* and *Left 4 Dead*.

James Silva, Founder of *Ska Studios*

Why do you think the Xbox 360 performed so strongly compared to the Xbox?

I wasn't yet in the industry when Xbox 360 launched, but, as a consumer, it pretty much did exactly the opposite of what happened one generation later: it was cheaper, marginally more powerful, and marginally simpler and more game-focused than its competitor. The original Xbox was more powerful than Playstation 2, but it was a lot more expensive, the gamepad was awful and the games library wasn't there. When Xbox 360 debuted, it did everything right, and had just enough of an edge on PS3 to be a competitor.

How critical was Xbox live arcade to the success of the console?

My understanding of XBLA in terms of the console's overall success is that it didn't contribute much, at least financially, compared to blockbusters like *Halo* and *Gears Of War*. And it has been shuttered since then, with ID@Xbox acting as a more hands off replacement of the organization. But, for its short lifespan, I believe XBLA contributed a great deal toward defining, incubating, and promoting all of those tiers of games that fit somewhere between hobbyist projects and triple-A productions.

What developer do you think defined the console and why?

I'd like to pretend that we did, but Xbox 360 was absolutely defined by its big IP: *Halo*, *Gears Of War*, *Forza*, by developers Bungie, 343, Epic, The Coalition and Turn 10.

What made you want to jump on that indie scene and create games like *I Made a Game With Zombies in It*?

I'm one of those people that has just wanted to make games his entire life, going back to drawing game levels and characters at nine and writing text adventures in BASIC at 12. The way the current landscape is, indie games are my only real option to keep living out this dream. And live it out, I shall.

Fun fact

THE XBOX 360 **MOST FREQUENTLY APPEARED AT THIRD PLACE** IN THE TOP TEN LISTS OF THOSE WHO VOTED FOR IT.

Your say...

WHEN WE FIRST GOT THIS, IT REVITALISED FAMILY GAMING WITH KINECT SPORTS, KINECT ADVENTURES AND DANCE CENTRAL. **IT WAS ALWAYS FUN TO PLAY WITH FRIENDS**, AND ESPECIALLY AFTER A FEW DRINKS"

– bounty bob

8 COMMODORE 64
BREADBIN BELOVED

MANUFACTURER: **COMMODORE** | YEAR: **1982**

■ **Driven by Jack Tramiel's philosophy of making computers "for the masses, not the classes", the Commodore 64 packed powerful graphical capabilities and a legendary sound chip into an affordable package.** As a result, coders embraced the platform and created incredible games that make this **Retro Gamer** readers' favourite 8-bit machine.

Rob Hubbard, *Former videogame music composer*

Where did it all begin for you and the C64?
I bought a C64 based on the fact that it had 64KB RAM and a three-voice sound chip. The other machines at the time just didn't seem as interesting. Straight away I found the machine fascinating because it was so interesting and difficult to get anything to work – like the listings in the magazines.

Why was the machine so good for composing music?
Because it had a synth chip, which was somewhat familiar to those of us who had dabbled with analogue synths.

How much of your career do you owe to the C64?
Difficult to answer, but looking back I'd say a huge amount. I didn't expect the games business to take off like it did and become so huge. The C64 work led to my career move to EA. That being said, though, I think I would have still done something quite interesting in music if the C64 had not happened.

You've composed a lot iconic soundtracks for the machine, but which other C64 tune do you wish you had composed?
Well, to be honest I never had much time to check out other games or music in the Eighties, when I was working flat-out and silly hours getting everything done. And then when I moved to EA, I was very conscious of accidentally ripping off some other music, so I made a point of not listening to other music, except for more some contemporary classical and orchestral pieces. I didn't want to cause EA a lawsuit! It's so easy to accidentally pick up a motif and use it unintentionally. Having said that, I always did like Martin Galway's *Rambo*, and also *Wizball*. Both very good. I wish I had written that *Rambo* tune!

Why do you think the machine remains so popular today?
Mainly nostalgia, and looking back to childhood or teenage years, and maybe a rejection of the bloated machines of today. And, maybe because it's relatively simple to program and there's no convoluted operating system or C++ to get in the way.

Your say...

THE FIRST COMPUTER I COULD CALL MY OWN. I GOT MINE IN 1987 WHEN I WAS TEN, AND I STILL SWEAR TO THIS DAY THAT **THIS MACHINE GOT ME IN TO COMPUTING**, AND HAS RESULTED IN ME DEVOTING MY LIFE TO USING AND WORKING WITH COMPUTERS"

– Stuart Wilson

7 NINTENDO 64 NINTENDO'S N GAME

MANUFACTURER: **NINTENDO** | YEAR: **1996**

■ **The Nintendo 64 marked the beginning of the end of Nintendo as the dominant player in gaming, but it nevertheless leaves behind a legacy of truly exceptional games.** The influence of *Super Mario 64*, *Ocarina Of Time* and *GoldenEye* can still be felt in games today while its bespoke controller also set a trend that would be repeated in its later systems.

Mark R Jones,
Former 8-bit graphic artist and N64 collector

You're a big collector of the system, what do you like about it?

The big thing for me was that I felt games had actually entered the next phase with the introduction of proper 3D. With the SNES we were still really getting souped-up versions of games I'd played on the Spectrum, just with better graphics, smoother scrolling and more memory. With the N64 and the 3D it was capable of that next phase had finally been reached. The instant loading afforded to us by the games being stored on cartridge was also a welcome luxury. I was also quite ill for a period I owned my N64 and was holed up in my house, not being able to go out much, so having a machine kept me as sane as I could under the circumstances and my day would consist of the copious cups of coffee, 20 Marlboro Lights (I did give up the evil tobacco eventually) and my N64. I worked through most of *Donkey Kong 64* during this period, though I still have never managed to finish it.

What legacy will the N64 leave behind?

It has a comparatively small library of titles compared to other consoles but that collection contains some of the best games ever produced. I do see the machine getting slagged off quite a bit due to its blurry graphics and some titles short draw distances but none of that bothered me, back then or now. Admittedly, some graphics [on certain games] look a bit dated but there's a core of games there that can still amaze and are still a joy to play even 20 years later.

Ah, so it was the games. So how impactful do you think games like *Super Mario 64* and *Ocarina Of Time* are to the industry?

Hugely. They showed everyone what was needed to make a perfect game and what was possible. Both those games are still amazing to load up and play and still will be in a hundred years' time. Nintendo got it so right. Not only did everything look jaw-droppingly gorgeous, they got the playability, difficulty levels, sound and music spot on. At the time of their release there really was nothing like them. Nothing came close. We were witnessing the second coming and I was getting the same amount of wonderment I'd experienced over ten years ago when I was witnessing all the firsts of 8-bit gaming with my ZX Spectrum!

Fun fact

MORE THAN **40% OF READERS VOTED FOR THE N64**

6 AMIGA 500
THE 16-BIT POWERHOUSE

MANUFACTURER: **COMMODORE** | YEAR: **1987**

The Amiga 500 felt like a quantum leap for videogames when it was first launched in 1987, and we can imagine that seeing demos of *Batman* or *Shadow Of The Beast* convinced many 8-bit owners that they finally needed to upgrade to Commodore's supercharged system. It's high placing in your list suggests that your jaws were dropping just like ours when you first encountered it.

Martyn Brown, *Cofounder of Team17*

The Amiga is the highest-voted computer in our list, why do you think that is?
It doesn't surprise me, there's just something about the Amiga that bonded so many people and brought so much entertainment. It's probably responsible for a massive interest surge in both gaming and a gaming career.

How important has the Amiga been to your career?
The Amiga was hugely important for me in terms of a career. The timing, my age and associations, as well as the flavour of the machine, made it pretty much perfect in all walks of my life at the time. It was great to be associated with the machine and a number of pretty good games at the time. Without the Amiga and great friends around me at the time, I'm not sure I'd have really made it – it was a real catalyst.

You must have a fun story from when you were working on Amiga games, surely.
I have a lot because we used to work hard and play harder. But my favourite one that perhaps can be printed was a briefing down at Commodore where everyone in the meeting went quiet when the tea lady came in, then as she left, we were shown the prototype CD32 controller. Well, it amused me that they didn't want her to see it, I'm not sure what damage it would have done.

Why do you think Team17 games became synonymous with the Amiga?
I think it's because we went over and above for the machine, we shot for one-meg-only games and made crafted titles that used the best of the machine. There were a lot of ports at the time and we always tried to make colourful, smooth scrolling and great sounding game experiences. Given our independence, we were able to make the games we wanted to play.

What is it *you* love about the Amiga?
I loved the Amiga because of its open architecture and the fact that you could achieve great things, with great sound and visuals. I loved the spirit of community that the Amiga brought and the passion, I'm not sure there's ever been a computer like it before or since.

Andrew Braybrook, *Former Commodore 64 and Amiga coder*

How was the Amiga to work with?
There was a big time difference between when I first saw an Amiga and when I was allowed to start writing code professionally, something like four years, which is a long time to watch the greener grass on the other side of the fence. When I did get to write for the Amiga, there were a lot of new toys to get to grips with: the blitter, the copper, more colour choices, more memory, four-channel sampled sounds and a great CPU. I was then a tad disappointed that the machine was slightly underpowered to just use as-is, so we had to find ingenious ways to make best use of the hardware. Finally, the Amiga flowered into the A1200 AGA machine. And all too briefly after, she was taken from us. She was though by far the best at the time.

Allister Brimble, *Amiga composer*

Why have you chosen the Amiga as your favourite system?
I love the Amiga because it was a huge step in both graphics and sound, which brought us into the 16-bit era, and allowed a new generation of audio, graphic a and coding artists to explore their creative potential.

Stuart Atkinson, *Former Amiga artist*

Why do you love the Amiga?
I suppose the main reason I loved the Amiga back then was for its graphics capabilities. DPaint was bundled with it and I couldn't stop using it, it's a brilliant art package on an amazingly fast machine. That's what was so good about the machine – it was all about creating your own stuff, art, music, animation, programming and not just for playing games.

The demo scene was a major part of owning an Amiga for a lot of people, too, They were such a vibrant creative bunch, it's what lead to me and several of my friends to getting jobs in the industry. And I got to develop a couple of games professionally on the machine I loved so much, which was awesome!

Your say...

A MAGNIFICENT ALL-ROUND GAMING MACHINE AND A VERY NOTICEABLE UPGRADE ON THE 8-BIT SYSTEMS"

- PostieDoc

Fun fact
80% OF VOTERS THAT PICKED A 16-BIT HOME COMPUTER CHOSE ONLY THE AMIGA, WITH 12% PREFERRING THE ATARI ST AND 8% NEITHER
PHILIPS
ANOTHER WORLD
NEON
AMIGA

5 PLAYSTATION 2
THE TITANIC TOWER

MANUFACTURER: **SONY** | YEAR: **2000**

■ **As the bestselling games console ever made, with over 155 million sold, the appearance of the PlayStation 2 in this list was inevitable.** Massive hype gave way to a slow launch, but eventually games arrived to satisfy every taste you could imagine, ensuring that Sony retained the market dominance it had established in the Nineties.

Andreas Axelsson,
Former Digital Illusions and PS2 programmer

You've described the PS2 as having "mad architecture" – what do you mean by that?
While the PlayStation 2's Emotion Engine was very capable it was also very hard to harness its power, and in a way I think that's what gave the console such longevity. It just took a very long time for developers to figure out how to best utilise it, and when they did they could keep up with the evolution of other platforms for longer than was otherwise normal. It gave highly complex parallel processing to programmers who were used to a single CPU, with possibly a GPU on the side.

What was the machine like to work on?
Just as with the original PlayStation, the development tools were very basic, while the development kits were expensive and complex to set up. Many of the tools felt half-finished, and with documentation translated from Japanese, it was sometimes a challenge to figure out how things worked. I'd say I had something of a love-hate relationship with it.

So what's your best memory from when you were working with the PS2?
I think my best memory from the PlayStation 2 was *ICO*. It was such a radical step away from most games and beautifully executed. And I grew up with Disney all around so *Kingdom Hearts* was one of my favourite games.

Why do you think it's currently the bestselling console of all time?
I think the complexity of the PS2 also made it more interesting than other machines, both to players and to developers. That developers could evolve and learn over such a long time, and learn how to squeeze even more performance out of it, helped ensure it was worth making games for it for a very long time.

Despite your love-hate relationship professionally how did you feel about the PS2 as an entertainment system?
With the PlayStation 2, Sony took what they started with the PlayStation and made a real powerful machine. The controller was great on the PlayStation and the PlayStation 2 made it better. There were so many great games, which is the biggest reason for any console selling well in my opinion. And as I mentioned, the challenges of developing on it were appealing to the programmers that were around.

Fun fact

THE PS2 JUST MISSED JOINING THE FOUR CONSOLES ABOVE IT IN THE ELITE CLUB OF MACHINES THAT APPEARED ON OVER HALF OF ALL BALLOTS, **WITH 49.9% OF YOU PICKING IT IN YOUR TOP TEN**

4 DREAMCAST
BURN BRIEFLY, BURN BRIGHTLY

MANUFACTURER: **SEGA** | YEAR: **1998**

■ **Few consoles inspire the passion that Dreamcast fans hold for their machine.** There are many reasons it's an all-time great – an astonishing run of great games in a short time, the arcade focus that would never be seen again, a vibrant homebrew community, and, of course, its status as Sega's hardware swan song.

Ed Logg, *Former game designer at Atari and Atari Games*

You saw the Dreamcast early on, behind closed doors, what was that like?

My first encounter with the Dreamcast is when I was called to Sega Of America's headquarters to have a meeting with all the parts manufacturers and major developers for the announcement. After they gave their talk, which included a launch date, I asked a few about when we could get development systems, etc. It became immediately clear there was no way they could make their deadline so I got up and left. The manager came out and asked me why, so I told him. Sure enough it was released much later.

What was it about the Dreamcast that made you enjoy working on it?

I liked working on the Dreamcast because the video looked so much better than the Nintendo 64, and it did not suffer from an issue with the polygon edges tearing that the Nintendo 64 had.

What's your best Dreamcast-related anecdote?

I added some security to our code to keep hackers from breaking the security and making free pirated copies of *San Francisco Rush 2049*. So when players placed high scores or uploaded any data, it would include a flag that said this was a hacked version. We never used this data, and I have never seen it mentioned in any literature. One hacker once told me that this game was the hardest to crack, but I just did not have the heart to tell him I could easily detect the hack and that Sega had this information.

Your say...

THREE WORDS: **PHANTASY STAR ONLINE**. OH MY FRIGGIN' GOD, THE ULTIMATE KILLER APP, THE NUMBER ONE SYSTEM SELLER. I PUT AN UNGODLY AMOUNT OF TIME INTO THIS, UNFATHOMABLE RAGE AND BOTTOMLESS DELIGHT"

- smac

Fun fact

BETWEEN THE PLAYSTATION AND N64, 45% OF VOTERS CHOSE ONLY SONY'S SYSTEM, 23% CHOSE JUST NINTENDO AND THE REST PICKED BOTH

3 PLAYSTATION
NEVER UNDERESTIMATE THE POWER

MANUFACTURER: **SONY** | YEAR: **1994**

■ **Sony's first entry into the console market was a game-changer in every sense possible.** Its 3D power was incredible, blowing away the competition, and developers used it to create longer, more cinematic games. The PlayStation also took gaming into the mainstream, becoming the first ever console to sell over 100 million units.

Mike Dailly, *Former programmer of DMA Design and Realtime Worlds*

Why do you think the PlayStation was such a success?

The PlayStation was a massive step for a home console, the jump from 2D to not just flat 3D – which was still what people were mostly used to at the time – but fast, fully textured 3D. This was phenomenal, jaw-dropping, in fact. *Ridge Racer* – the first game I saw and bought – was a literal clone of the arcade machine, which is astounding for its time.

How did the PlayStation compare to other systems at the time from a developer viewpoint?

The 3D nature made it a fair jump in development processes from PCs and 2D games. Not only did everything take much longer, but it was a lot more complicated to do as well. Performance-wise, the CPU wasn't hugely powerful, and it had a small cache so to get the best out of it, you did still have to drop down to MIPS to get the best from the machine. For a tech head, it was great fun, full of tinkering and cool new tech.

How important were games like *Grand Theft Auto* to the success of the system?

Grand Theft Auto itself did pretty well on the machine, but other games did even better. It was, however, the first step in truly moving gaming from the bedroom to the living room. 16-bit consoles were still pretty geeky, but the PlayStation elevated the perception of gaming. Games like *WipEout* made it 'cool' and that was a big step into acceptance by the world at large.

How do you think the PlayStation will be remembered by gamers?

The PlayStation had some great games, and helped birth some amazing series. *WipEout*, *Grand Theft Auto*, *Metal Gear Solid*, *Tomb Raider* and *Ridge Racer* all appeared on the machine, and while they didn't all start life on there it got the masses interested in them, and this helped bring them into the hearts of gamers.

Paul Hughes, *Former programmer at Warthog Games and Traveller's Tales*

What was your initial reaction to the PlayStation when you first saw it?

It's going to sound a bit cliched but the first thing I saw was the now infamous dinosaur demo. You were looking at the dev boards and thinking, 'This little box can produce this? Holy shit!' Everything about the PlayStation experience dragged you in, right from the initial boot sequence with its swooping, echoing sounds. It just screamed, 'Welcome to the future.'

Why do you think Sony was able to immediately disrupt the established companies in the console market?

First and foremost they had great hardware. For the time, it was leaps and bounds ahead of the competition. Second, the Sony brand: they may not have had the 'oomph' of Nintendo or Sega in the game space, but Sony was a *huge* electronics brand with a cult following. If you took that and some very impressive launch titles it was hard for them to fail.

Which games do you feel defined the platform?

It's kind of an eclectic mix; *WipEout* was the first 'killer app', although I'd argue that *WipEout 2097* was a better game. I loved *Tekken* and still do – I was actually really impressed at how quickly they could pull in so much animation data between rounds. The *Spyro* series really showed off what lovely visuals could be achieved. Finally I thought Neversoft's original *Spider-Man* was an absolute tour de force, seamlessly combining story telling with the third-person action adventure genre.

What do you feel is the PlayStation's lasting effect on gaming?

For me, it was the first piece of consumer electronics in the games space that forced its way into the living room setup, alongside your TV/VHS/ Hi-Fi. Its elegant design 'fit in' – something only Sony of that era could have pulled off.

Your say...

THE PLAYSTATION WAS THE **START OF NEW EXPERIENCES** IN HOME GAMING, AND WHILE THE 3D IS UGLY BY TODAY'S STANDARDS, THE GAMES ARE STILL EXCELLENT"

- Graham Plowman

2 MEGA DRIVE TO BE THIS GOOD TAKES SEGA

MANUFACTURER: **SEGA** | YEAR: **1988**

■ **For all its achievements, the Mega Drive will perhaps be best remembered for being the first console to finally break Nintendo's ironclad grip of the market (even if it was for the briefest of moments).** It might have trailed behind the PC Engine in Japan, but things were very different for Sega's console in the West, thanks to strong developer support from the likes of Electronic Arts, a string of killer arcade conversions and a little blue hedgehog by the name of *Sonic*.

Trip Hawkins,
Founder of Electronic Arts

Why was the Mega Drive so important to EA's early success?

Way back at Apple in 1978, Steve Jobs and I agreed on the need for a 16-bit processor and targeted the Motorola MC68000, which was in some ways the spiritual successor to the 6502. While the 6502 dominated through the Eighties, we put the 68000 in the Lisa and Mac. My biggest love affair was with the Amiga, but Commodore mismanaged the business and it did not help that it cost over $1,000. Of course, I also cared about graphics and sound chips and had seen what great things Rob Hubbard and others had done with the SID chip in the C64. The Amiga was so great that we were able to licence the coin-op code base for *Marble Madness* and do a simple translation to port it to the Amiga and have it look and play the same. In 1988 I heard that Sega would be bringing a console to market at a price under $200 that would have a 68000 and good custom graphics and sound chips. I led EA to make a bet on it and we helped it take off. The rest was history. You could say it was an overnight success that took more than a decade.

I'd known for all those years that to make the games I really wanted to make and to play, we would need a 16-bit system with custom graphics and sound chips. For there to be a meaningful market a lot of them would have to be sold, which made pricing critical. The Genesis/Mega Drive was the first machine to have all that. Other choices at the time were either inferior 8-bit systems or too expensive. Also, the Mega Drive was perfect for EA Sports, where it is ideal to play with a friend in the same room and to have enough graphics speed for team sports. It even came with two joysticks!

David Perry,
Cofounder of Shiny Entertainment

Can you recall your first encounter with the Mega Drive?

Nick Bruty and I were a two-man team making games for ZX Spectrum, Amiga and Atari ST. The main flow of games we created was for Probe Software (run by Fergus McGovern), games like *Teenage Mutant Hero Turtles*, *Dan Dare III* and *Paperboy II* etc. Fergus managed to get us a Mega Drive and the licence to the movie *The Terminator* by James Cameron. Most exciting day ever!

Of course, we accepted the project, but we had no experience on this device, I had no idea how to program it and the manual was mostly Japanese. We also had no tools to make games for it. Back in those days, we felt invincible, so we just started typing!

What was it like to work with compared to home computers?

Programming on consoles was the best because they were a walled-garden, not constantly changing. Same with the controllers, only a few buttons and so the environment was as pure as it could be. Interestingly, I never personally made a PC game through my entire career. I did learn how to program 8086 assembly language, but never got around to making a PC game.

How important was the Mega Drive to the success of Shiny Entertainment?

Shiny was funded by Playmates Toys, they made the toys for *Teenage Mutant Hero Turtles* and wanted to invest into games. The Mega Drive was the perfect platform as it allowed us to make games for their target audience. The result was not only getting to make *Earthworm Jim* on Mega Drive, but we also got a line of toys, a TV show, Marvel comic books, even licensed Halloween masks and underpants!

Why was Sega able to briefly top Nintendo with the Mega Drive?

Nintendo has always focused on the younger gamers and so when *Mortal Kombat* had blood and violence, they created a red line. While that made sense, all I saw was gamers wanting to sell their 'Nintendos' and buy 'Segas', let's just say they didn't welcome censorship.

Why do you think the Mega Drive remains so popular with our readers?

Mega Drive was the source of *countless* hours of entertainment for people. Wherever I go, people that grew up with it remember our games like *Earthworm Jim* and *Disney's Aladdin* and gush about how much they loved Mega Drive gaming as a kid. This was before iPhones, iPads and Netflix, it was the centre of many people's entertainment universe.

Your say
I SPENT LOADS OF TIME IN THE ARCADES GROWING UP IN GREAT YARMOUTH AND FOR ME THIS WAS THE FIRST CONSOLE, WHICH REALLY FELT LIKE ARCADE-QUALITY GAMING AT HOME"
- JamesC
Fun fact
THE MEGA DRIVE APPEARED IN OVER 70% OF READERS' VOTES
16-BIT
POWER
ON
MEGA DRIVE SEGA
SEGA POWER
Aladdin
CASTLE OF ILLUSION
96
MEGA BOMBERMAN
MEGA DRIVE

Fun fact

IN THE 16-BIT CONSOLE BATTLE, **59% OF YOU REFUSED TO PICK A SIDE** AND CHOSE BOTH THE MEGA DRIVE AND SNES. 20% CHOSE SEGA'S MACHINE ALONE AND 21% CHOSE JUST THE SNES

Your say

THE PINNACLE OF AFFORDABLE 2D GAMING AT HOME, WITH MANY TIMELESS CLASSICS... STREET FIGHTER II IN YOUR LOUNGE ANYONE?"

- Alix Bergeret

1 SNES YOUR FAVOURITE MACHINE

MANUFACTURER: **NINTENDO** | YEAR: **1990**

■ **Here it is: the system that Retro Gamer readers have voted the greatest of all time.** As soon as voting began it was clear that one of the great rivals of the 16-bit era would win, and the leader changed frequently. In the end, the SNES finally triumphed over Sega's Mega Drive by a whisker.

In hardware terms, the SNES proved to be a contemporary powerhouse. It could display more colours than the competition and offered special effects, like transparency. Its custom hardware also allowed for a graphical layer featuring scaling and rotation, the famous Mode 7 technique – possibly the most famous custom hardware inclusion of all time. Its sound hardware played back actual samples, leading to richer audio in games like *ActRaiser* where symphonic sounds could be achieved. Its CPU wasn't the strongest, but this was a drawback that its developers overcame. The control pad was a revelation, too – even now most game controllers offer the same diamond formation of four face buttons, as well as shoulder buttons.

While many systems have suffered from slow launches or late declines, there was never a bad time to be a SNES owner. When **Retro Gamer** readers voted for the greatest games of all time back in issue 150, they put *Super Mario World* right at the top, and that was available as soon as the Super Famicom launched in Japan. The fierce competition in the console market drove the development of many classics in the early Nineties, from first-party originals like *Super Mario Kart* and *Super Metroid* to third-party hits like *Street Fighter II* and *Secret Of Mana*. Even when the rest of the world was looking towards the PlayStation and Saturn, SNES owners were enjoying games like *Yoshi's Island*, *Earthbound*, *Kirby Super Star*, *Terranigma* and *Street Fighter Alpha 2*. From massive hits like *Donkey Kong Country* to offbeat cult classics like *Unirally*, the SNES always had great games across all genres.

But perhaps more than anything else, the SNES is readers' favourite console because it was the last console to arrive before gaming started to change. The SNES came at a time when competition in the market was between gaming companies, rather than enormous tech giants. It came at a time when arcades ruled the gaming world and 3D was a novelty. No FMV intros, no DLC, just great games for years. Long live the SNES.

Chris Sutherland,
Ex Rare programmer

What first impression did the SNES leave on you?

My first encounter of the SNES, as a player, was watching and playing *Super Mario World* after a Super Famicom appeared in the Rare office in 1991. Although *Mario World*'s visuals are clean and bright it was still clearly a step up from the NES, and as I ran, jumped and flew Mario through various levels and castles I remember thinking that at last we'd be able to play games with visuals comparable to what was in the arcades!

My first software engineering encounter with the SNES was a little later; it was in August 1993 when I moved from *Battletoads Arcade* onto a new top-secret project in a building that was locked off from the rest of the company. Prior to that, others had been working on the console at Rare, and so I had some rough knowledge of some of the specs, but it is always exciting to start working on a new piece of hardware!

So, specifically, what is it about the SNES that you like?

I love the way these older generation consoles, like the SNES, were built as dedicated games machines – they allow you quite easily to have a good number of things whizzing around the screen, and at a lower cost than had you tried to build a 'general purpose' system like a PC.

The trade-off for that power is that you have some limits on the number of things that can be whizzing around, or the ▶

GREATEST GAME SYSTEMS

Your say

ARGUABLY **NINTENDO'S GREATEST ACHIEVEMENT**, AND YET THE HARDWARE ITSELF WAS LACKING IN ONE OR TWO AREAS. BUT THE PRINCIPLE MANTRA IS THAT A PLATFORM IS ONLY AS GOOD AS THE GAMES RELEASED FOR IT, AND THAT'S WHERE THE SUPER NINTENDO COMES THROUGH IN SPADES"

- Mayhem

Fun fact

70.5% OF READERS INCLUDED THE SNES IN THEIR TOP TEN LISTS, AND IT RECEIVED AN AVERAGE OF 6.9 POINTS PER VOTE – BOTH HIGHER THAN ANY OTHER SYSTEM

number of colours they can be in or even the complexity of the visuals. But like with all things, once you dig deep enough there are ways you can work around some of those limits.

What was it like to code for, compared to other systems?
It was (as the name suggests), a much boosted version of the earlier NES – Nintendo had refined and honed the technology used in their earlier system based (I'd assume) on how they had seen it being used over a number of years. It had more video RAM, more colours, more sprites than its predecessor (and even more buttons on the redesigned controllers). It also had more 'graphic modes' of operation. These were different settings that allowed you to trade off one feature, such as number of colours, against another, such as the number of independently scrollable layers, the most well known of which was Mode 7, which allowed the screen to rotate or give an illusion of depth.

As a result, we benefitted from the familiarity of working on systems, such as the NES or Game Boy, and a lot of the tricks we used there could be brought directly across to this new machine. Compare this with when we moved to N64 which required a lot of new learning and development methods.

What game, for you, best defines the SNES?
It's often the earlier games that define a console, and for me it would be either *Super Mario World* or *The Legend of Zelda: A Link To The Past*; I'd choose *Super Mario World,* as it was there right at the start and was just packed with colourful and fun elements.

What was it like rebooting *Donkey Kong* for the system?
At the time I don't think we all fully appreciated the scale of the task in being handed one of Nintendo's key characters to develop with, which is probably just as well as if we had we'd have been too terrified to do anything! We had two advantages: first that we had people with a lot of experience working on Nintendo systems, and second that we'd done some sample tests to prove out the idea of getting rendered images onto the SNES. When we started we weren't entirely sure of making an entire game like this was even possible, but the goal was promising enough from the sample tests that it seemed worth trying anything to make it work. We knew these prerendered images, even when crunched down, would eat up the available video RAM of the system, but fortunately our experience with Nintendo systems meant we could use a lot of tricks we'd built up over the years to work around that.

What's your clearest memory from the SNES days?
Paying about £90 for an import copy of *Street Fighter* – that's the kind of thing you don't forget! Apart from that, it would have to be the reaction from people when we announced *Donkey Kong Country*. Nintendo's next console was rumoured to be around the corner and people thought that the visuals must have been from that, but in fact they were all generated by the humble little SNES!

John Romero,
Cofounder of id Software, Ion Storm and more

Why do you think the SNES has topped our reader poll?
The SNES was the perfect console of its time, eclipsing the previous gen. Developers enthusiastically made hundreds of games for the SNES just like they did on the NES, but this time there were more colours, more speed and more interesting graphic modes – like Mode 7 employed by the classic *F-Zero*.

The killer apps of the SNES were undoubtedly what made the console legendary: *Super Mario World, A Link To The Past, Final Fantasy VI, Chrono Trigger, Earthbound, F-Zero, Super Metroid* – the list is long. This was my favourite console of the past 40 years. I've never had so much fun on any other console.

Mike Dailly,
Former programmer at DMA Design and Realtime Worlds

Tell us a little about the first time you laid eyes on a SNES.
The first time I saw one was at work [DMA Designs] when we got one in with *Super Mario World*, at which point I got totally hooked. It was clear it was a big step up from the older platforms, even from others like the PC Engine. I played *Mario* for a year solid, getting 100 per cent and all the hidden areas it had to offer.

When did you start developing for the SNES?
After I'd finished *Shadow Of The Beast* on the PC Engine I moved onto the SNES for writing *Lemmings 2*. There were some really cool toys in the SNES that meant I could pull off some nice tricks. I utterly loved the three levels of parallax I could get with the machine, which is why the SNES is the only one to have the (very cool) dual-playfield gameplay, making it *much* nicer looking. I had great fun with *Lemmings*, from adding snow in the polar levels, to allowing the Super Scope to be plugged into port two so you could shoot the lemmings and blow them up.

You also worked on *Uniracers*, which we really like.
Uniracers was a much more natural SNES game, but we still found some really nice tricks. It's a two-player split-screen game and we wanted as thin a split as possible. Using an old C64 trick, however, I got the guys to 'rip' the sprites and this gave us a 'perfect' raster split with no gap between the play areas. Nintendo had never heard of this trick and insisted Nintendo R&D test it on every hardware revision of the machine to make sure it worked. It did, so we were allowed to keep it in which was a relief! We also started a *Kid Kirby* game for Nintendo, but it got canned.

You've coded for a huge range of machines over the years – is the SNES one of your favourites?
I loved the SNES. It had enough toys to allow some really neat effects and allowed you to push the boat out compared to other platforms. In fact, I loved it so much, I wrote my own assembler on the Amiga and download tool to the 'hacker' device, the Magicom, so I could develop at home.

Julian Eggebrecht,
Cofounder of Factor 5 and TouchFactor

What did the SNES represent to you, as a game developer?
The SNES was a revelation in colour and possibilities for me. I always loved the Amiga for its 4,096-colour palette and the ability to display even pastels, so the SNES with 32,000 colours was the next step upwards while the Mega Drive and PC Engine felt like taking somewhat of a step back in that area. Mode 7, of course, was the other big revelation, with so many possibilities for 2D games as well as the 3D games of that generation. The SNES simply upped the ante on so many levels: it facilitated whole new genres with the technology palette it provided.

Simon Butler,
Artist at Ocean, Team17 and more

What does the SNES mean to you?
The SNES for me was the finest gaming console ever. Consoles have come and gone, but the SNES is easily number one. Its titles covered all genres. Every game I played has influenced my approach to development, but SNES titles figure larger than most. They had an accessibility and boldness about them. It was designed to entertain and it did that with aplomb.

It was a product of a time when something just felt right about games. The fun hasn't gone out of gaming, but it's never been so pure. It's a great machine that never let me down.

Rocket Knight Adventures

HITTING A ROADBLOCK

RETROREVIVAL

» MEGA DRIVE » 1993 » KONAMI

About 22 years ago, I unwrapped the best Christmas present I ever got: a Mega Drive, a portable TV that I could've easily mistaken for a microwave oven and Konami's *Rocket Knight Adventures*.

I'm pretty sure that my parents didn't know what they'd given me. They probably saw the cute opossum on the box and applied the formula of: 'cute equals probably fine for kids'. It didn't matter. My dad set up the telly, popped the cart in and handed the controller over. I was so happy… I was crying on the inside with joy.

Rocket Knight kind of employs the *Super Mario Bros.* technique of subtly teaching you all you need to know about the game in its first level. Only after dispatching a few pig soldiers with Sparkster's sword I encountered the not-so-subtle problem of an impassable wall. I was four years old, I didn't know that all I had to do was hold a button down to set off Sparkster's jet pack – holding a button down was a concept as alien to me then as mortgages are to me now. So came forth a stream of real tears.

Dad couldn't figure it out, he thought you had to mash the button to fill rocket gauge. Mum was too busy preparing to feed the impending deluge of family members on our house, so she was out. So I turned to my sometimes-arch enemy at the time: my older brother. Matt religiously played *FIFA*, so he was versed in the arcane trick of holding a button down and letting it go. Sparkster took to the skies; I thought my brother was a magician.

Two decades later, I'd like to think I'm a lot better with games today. But still, whenever I get stuck I always remember that moment my brother basically saved Christmas Day 1995.

VENTURE

Back in the early Eighties adventure games were still a very new concept and this was especially true in the arcades of the time. So when Exidy's Venture arrived it broke new ground. Kieren Hawken speaks to creator Howell Ivy to learn more

IN THE KNOW

- **PUBLISHER:** Exidy
- **DEVELOPER:** Howell Ivy
- **RELEASED:** 1981
- **PLATFORM:** Arcade, various
- **GENRE:** Adventure

It's the year 1981 and arcades are booming thanks to titles such as *Pac-Man* and *Space Invaders*. As great as all these new games were for everyone, the vast majority of them were just variations on the same overall theme. There were, of course, some notable exceptions to this statement, outstanding coin-op titles such as *Frogger*, *Donkey Kong*, *Defender* and, indeed, Exidy's *Venture* all broke new ground and introduced some fresh game design to the masses. Designed and coprogrammed by Howell Ivy, who was also one of the owners of Exidy, *Venture* is notable for being the very first 'adventure' game released in arcades. Two years earlier, Atari had introduced the very first game of this type on a console, simply titled *Adventure*. Both games share similar origins, as Howell himself remembers, "The inspiration for *Venture*, much like Atari's own game, was the popular paper-and-pin role-playing game *Adventure*. We tried to capture the spirit and excitement of the game while keeping with a simple storyline." With that in mind, we are interested to find out who came up with the idea to turn this into an arcade game, and how much of it was Howell's own work? "In those days there was no difference between the designer of the game and the role of the programmer, hardware designer and even the artist," Howell explains. "Game ideas and gameplay came from many different places back then. Yes, the general idea of 'let's do an adventure game' I can say was mine, however there were many contributors to the gameplay and ideas, some of which came from my coprogrammer Vic Tolimoni."

Obviously, a full-on adventure game in the arcades just wouldn't have been possible for several reasons. Firstly, because a coin-op needs to be designed to eat people's money, keep people playing and provide just enough action for your coin. Also, because arcade games need to be easy to just pick up and play, there is no time to learn complicated controls or read long tutorials. So, with this in mind, the designers at Exidy tried to take the key elements of an adventure game and combine them with the popular themes of other arcade titles. In went exploring, varied locations, maps, collectable items and intelligent enemies, along with more arcade-like aspects such as the ability to shoot, high scores, different levels and simple controls. Starring a character called Winky, your mission is to recover the stolen treasures from a series of dungeons. There are three levels in total, which each contain four rooms, and these are contained within a sort of overworld map (years before titles such as *Zelda*

popularised the format). The map allows you to decide in what order you want to tackle the rooms and how you want to enter them, as each room has multiple entrances/exits. But even negotiating this part of the game is tricky enough, as there are the hall monsters to contend with. These invincible foes not only patrol the corridors trying to stop you even entering a room but will also follow you in if you take too long and take you out in seconds. Once in a room, Winky can then use his bow and arrow to fight off the guards and other creatures that lurk within before grabbing the treasure and escaping.

One of the most outstanding features of *Venture* for the time was the enemy AI. Back in 1981, enemy intelligence was basic at best and so there were usually patterns you could learn to beat it. That is not the case in *Venture* as this represents one of the earliest examples of an arcade game where the enemies adapt to what you do. For example, when you go in a room the veracity of your opponents increases with each one you kill. They will also attempt to dodge your fire and gravitate towards any treasure within the room to protect it. There are also elements of stealth as you try to avoid the hall monsters in the corridors. Howell is particularly proud of his achievements in this area. "This was one of the key elements we wanted to capture in the game," he says. "Each enemy, room and hallway element was given a role and a reason to be. Each and every game should be similar in play, but depending on the decisions the player made, the game's AI reactions would get more or less intelligent. For me this is the game's most important feature." And this leads us nicely onto another feature we admire: the genuine scare factor of *Venture* when a hall monster follows you into a room, announcing their arrival before going for the kill, almost like an early attempt at survival horror. We quiz Howell on how intentional this was. "I would like to say every ▶

» [Arcade] In this room you have to wait for the gates to open so you rush through them as quick as possible.

> **"Depending on the decisions the player made, the game's AI reactions would get more or less intelligent"**
> Howell Ivy

VENTURE 101

■ A forerunner of the modern arcade adventure, *Venture* combines elements from the early rogue-like RPGs of the time with all-action arcade games to provide something for everyone. It was the first title to introduce us to now well-known gameplay elements such as stealth, risk and reward, adaptable AI, mapping and the ability to choose your own journey through the game.

CONVERSION CAPERS

We venture into the exciting world of home ports of this arcade gem

ATARI 2600

■ As you would no doubt expect this version of *Venture* has been simplified a little but this comes off much better than many of Coleco's other 2600 ports (we're looking at you, *Donkey Kong*). It certainly looks like the arcade game, features some great sound effects and plays well, too. The only fault is that it's a little too short and easy.

INTELLIVISION

■ The Intellivision version of the game is similar to the Atari 2600 one graphically, however it features an audio upgrade as this port features all the great music from the arcade original. It also has four difficulty levels and intermission screens. Overall, this is a highly polished conversion that's well worth hunting down.

COLECOVISION

■ It will come as no surprise to learn that out of the original ports of *Venture* the version for Coleco's own console is by far the best. The most notable difference from its rivals is in the visuals, as the high-resolution graphics here are almost identical to the arcade game. It's easy to see why Coleco used this as a poster child for its console.

ATARI 8-BIT

■ Produced in 2012 by Atlantis Games Group and sold via Video 61 Software, this homebrew port of *Venture*, which is playable on all Atari 8-bit computers, was released with the full blessing of both Howell Ivy and Exidy. This version not only features everything from the arcade original but also a load of new elements, too.

DEVELOPER HIGHLIGHTS

CROSSBOW
SYSTEM: ARCADE
YEAR: 1983

MOUSETRAP
SYSTEM: ARCADE
YEAR: 1981

CHILLER (PICTURED)
SYSTEM: ARCADE
YEAR: 1986

» [Arcade] When a hall monster enters the room you need to get out quick, they move a heck of a lot faster than you.

▶ action and player-game interaction is planned and programmed," he replies. "However, sometimes small decisions made during the development of a game can turn out to be the most important. Yes, being chased by the hall monsters was planned, but it became more a central part of the game than was intended."

Taking into account all the advances *Venture* had made in game design, artificial intelligence and bringing the 'adventure' genre into arcades, we were intrigued to find out what technical challenges the crew at Exidy experienced while producing it. Howell is eager to highlight all the different factors that the team faced. "The biggest challenges were as follows," he begins. "First – the time frame. With Exidy being a self-financed company we needed to ship product to pay our employees. I think, in total, the game took about four months to produce, that's from ideas and planning to completion on the production line. The next is how much game is enough? A title like *Venture* could have had hundreds of rooms, different levels and monster types. There were so many ideas to draw from, so you have to decide when you consider it done." We are also keen to find out what kept the team motivated enough to produce what was, at the time anyway, such a complex game within the fairly short timescale needed. "There were many late nights around the lab with very few words being said only the sounds of keyboards being pounded," Howell remembers. "It was the midnight deliveries of pizza that kept us going with other fast foods throughout the day to keep things going forward. Once you are in a state of mind with the focus on the mission to complete your game you don't want to lose it. It takes too long to get back to that productive state if you take a break!"

There are many elements of the game that make *Venture* memorable, but one that very much sticks in many people's minds is the design of the main character Winky. Essentially, he is nothing more than a big red smiley face, not the kind of protagonist you would expect to find in a game like this. So what's the story behind his design? "The best I can remember the name Winky came from Pete Kauffman, my partner and the president of Exidy," Howell says. "How did Winky come to be just a big face? The answer is simple, in those days the graphic capability of the video systems was quite limited. We needed a friendly image that could be moved in any direction without looking different of awkward, therefore the image of Winky was born and it just kind of stuck!" With the huge popularity of the game upon release, it quickly became Exidy's best selling coin-op machine to date. However, *Venture* never received a sequel, and we turn to Howell once again to explain why exactly that happened. "I just think we didn't really realise the popularity of the game at the time in all honesty," he admits. "We had other ideas to pursue and it is always very difficult to make version two better than version one. Originality and difference were the key factors to our product sales at Exidy, so a sequel was never really considered at the time for that reason too." The press loved *Venture* as much the arcade audiences did and pioneering videogame journalist Bill Kunkel reviewed the game in the Arcade Alley section of *Video* magazine praising both the graphics and background music in particular. He also predicted that the game's "complex play routines and strategies" would make *Venture* really stand out in the arcades and would

"Sometimes small decisions made during the development of a game can turn out to be the most important"

Howell Ivy

[Arcade] The red screen heralds Winky's unfortunate demise.

guarantee the game's popularity for years to come.

The undoubted popularity of *Venture* saw the rights to the home licence quickly snapped up by Coleco, who had already fostered a strong relationship with Exidy. Versions of the game were released for the Atari 2600, Mattel Intellivision and Coleco's very own ColecoVision console. Ports were also planned and announced for the Commodore 64 and Atari 8-bit computers but it's not known why these never saw the light of day. The ColecoVision version of *Venture* was used heavily in promotional material by the company to push the superiority of the hardware over its rivals and was originally considered as a pack-in before it secured the rights to *Donkey Kong*. The ColecoVision version would go on to receive the Certificate of Merit in the category of "Best Arcade-To-Home Videogame Translation" at the fourth annual Arkie Awards. As creator of the original arcade game, we wonder if Howell if he ever got a chance to play Coleco's home versions of his game. "Of course," he replies. "The porting of the game was very important to Exidy and was a much welcomed revenue stream. I thought the fidelity and essence of the game was captured very well. I always played the ports of our games, not just for integrity but also to have a little fun." Another notable fact about *Venture* is that it had one of the longest-standing high scores in gaming. In 2004 Jonathan Koolpe broke a world record that had lasted 21 years by beating the score of 15-year-old Canadian Randy Kuntz. His new score of 350,800 beat the previous record by just over 10,000 points. Jonathan broke it again in 2007 with a score of 375,090. Even with *Venture*'s place in record books secure we turn to Howell just one last time for the final word. "*Venture* and Winky should be remembered as one of the first mystery and role-playing games. You just never knew what was around the corner or in the next room. Plus those enemies were damn smart, too!"

"Venture and Winky should be remembered as one of the first mystery and role-playing games. You just never knew what was around the corner"
Howell Ivy

Special thanks to Howell Ivy and Sal Esquivel for their time.

ATARI 8-BIT VENTURE

Sal Esquivel is responsible for the 2012 port to the Atari 8-bit computers. We caught up with him to find out what inspired his own conversion

Why did Atlantis Games Group choose *Venture* for a conversion to the Atari 8-bit?
It had never been done justice on any other system except the ColecoVision. We felt that it was a game that was screaming for an Atari 8-bit port.

What was your exact role in the project?
I did the initial graphics and all the audio. I was also the project director. Peter Meyer was the coder and he altered some of my initial graphics to make them work better with the Atari. He also was the one who came up with the idea for the textured walls in the rooms. I have to give Peter credit, he's a damn good coder.

Were you a fan of the original arcade game?
Absolutely, it's one of my all-time favourite arcade games.

What were the biggest challenges of making this version of *Venture*?
One challenge was trying to cram it into a 16k cart. That was a lot of headache, but worth it in the long run. The biggest challenge was adding a new map to the game. Many people complained that the Coleco version was too easy. We were just going to increase the difficulty, but then we thought, 'Hey someone mentioned adding extra rooms, why don't we just add a whole new level?' That led to making the challenger mode, which not only has a fourth map, but a bunch of other obstacles in it.

Are you pleased by how authentic this game is to the arcade original?
We did a bit of a mix between the arcade and Coleco version and we are quite happy with the result. One of the things we did in our version that no other version has, is we offered two different control methods. One is the ability to 'hold and shoot' which means that if you point you arrows a certain direction and hold down the fire button, you can move Winky around the room while he continues to hold his aim. The second control system is the original directional shooting.

» [Arcade] The second set of dungeons are much larger and harder to negotiate than the first.

CLASSIC MOMENTS

Super Skidmarks

» **PLATFORM:** AMIGA 1200 » **DEVELOPER:** ACID SOFTWARE » **RELEASED:** 1995

***Super Skidmarks* is a pretty chaotic game at the best of times.** With up to eight cars in any given race, carnage is a certainty and winning relies on your ability to bully your way through the pack just as much as your cornering skill. Multiplayer games quickly become rowdy affairs that inspire jostling and shouting amongst friends, but that's all before a game-changing introduction.

As you dig through the menus, you find an option to attach caravans to the vehicles. The number of cars is immediately cut in half. Can a four-player race really be as much fun as one with eight cars? The answer is an emphatic, 'Yes!' – the caravans throw off the handling of your cars in a way that only adds to the turbulent nature of the game's racing. The longer vehicles are easier to smash into, and the caravans almost become flails with which to bash your opponents. *Top Gear* should never have destroyed all those poor, innocent caravans – they'd have had far more fun racing with them.

MORE CLASSIC SUPER SKIDMARKS MOMENTS

Running Of The Cows

Super Skidmarks offers a number of vehicle choices, from rough-and-tumble trucks to sleek Porsches and even F1-style racers. Yet the iconic vehicle in the game isn't anything traditionally associated with motorsports – nope, it's the humble cow on wheels. This divine bovine is the funniest thing in the game by far.

The Opening Corner

Eight racers, a track with limited space, and a single corner – this is a recipe for the kind of glorious disaster that makes a game like *Super Skidmarks* great. With no fear of destruction or even detrimental effects from any collision, you can feel free to plough straight into anyone that might be in your way.

Tearing Up The Track

Sometimes, it's the small details that make a big impact. So when you're driving around and carving your path through each curve, it might take you a couple of races to notice that you're literally leaving your mark on the track, churning up the mud and leaving some truly super skidmarks on the asphalt.

Going High-res

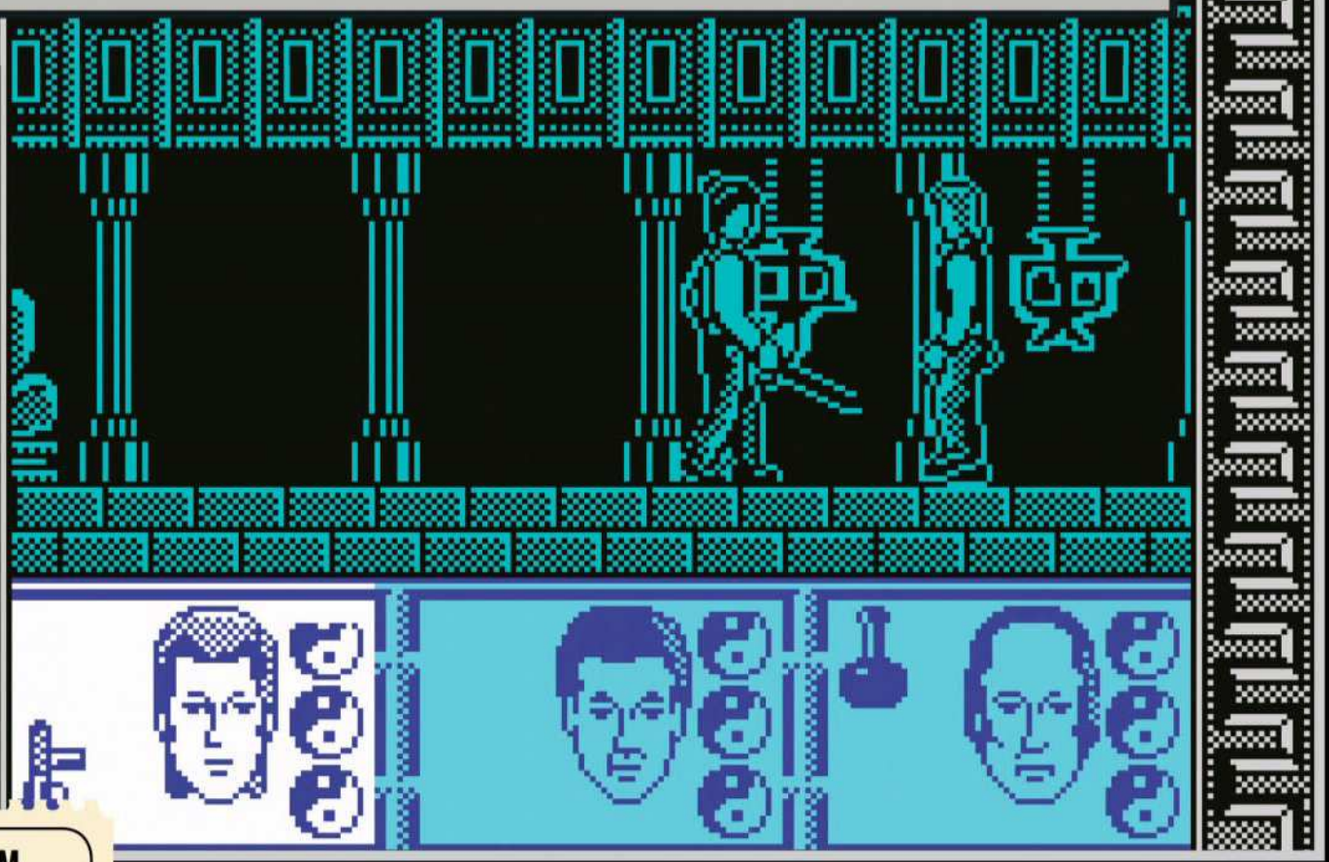
Using a high-resolution mode of the AGA Amiga, *Super Skidmarks* can fit even more action onto a single screen, making the tiny cars even tinier and giving the game a fair resemblance to *Super Sprint*. This is highly recommended for anyone who struggles to memorise the tracks!

BIO

The Amiga might have been in decline by 1995 due to the bankruptcy of Commodore, but with games like *Super Skidmarks* still arriving, users weren't wanting for things to play. Developed in New Zealand by Acid Software, the game took cues from the likes of *Super Off-Road* and used pseudo-3D environments to show hazards like bumps, jumps and banked corners. The game was a hit with the Amiga press, scoring 91% in *Amiga Power* and 92% in *Amiga Format*. Versions were later produced for the Amiga CD32 and Mega Drive, the latter using publisher Codemasters' J-Cart technology for four-player races.

LICENCE TO THRILL

NOW SHOWING: BIG TROUBLE IN LITTLE CHINA



FILM

- **» YEAR:** 1986
- **» DIRECTOR:** John Carpenter
- **» STARRING:** Kurt Russell, Kim Cattrall, Dennis Dun, James Hong, Victor Wong, Kate Burton
- **» BUDGET:** $25 Million
- **» BOX OFFICE:** $11.1 Million

GAME

- **» YEAR:** 1987
- **» PUBLISHER:** Electric Dreams
- **» DEVELOPER:** Mev Dinc, Nick Cook, Edwin Rayner
- **» PLATFORMS:** Amstrad CPC, C64, ZX Spectrum

Despite its cult following today, John Carpenter's action movie was a flop upon release. We take a look at what went wrong for both movie and game…

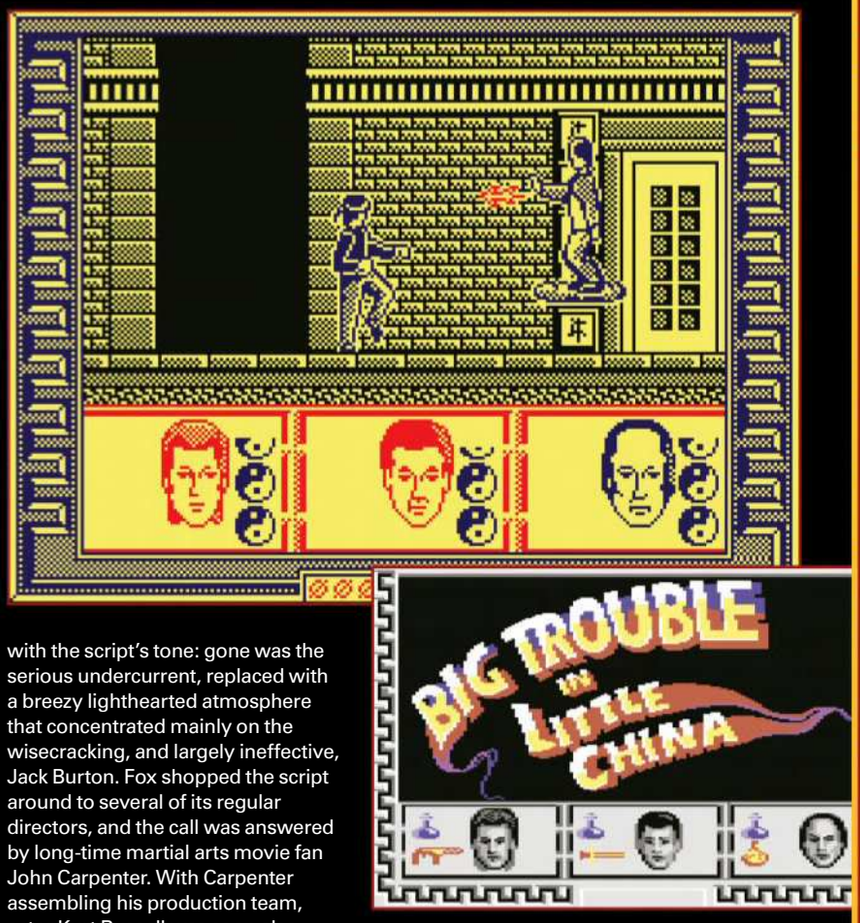
Watching it today, *Big Trouble In Little China* appears to have all the ingredients for a smash hit movie. Plenty of action and humour; a likeable hero in Kurt Russell's insouciant truck driver; and a unique theme, echoing the popularity of martial arts stars such as Bruce Lee and Jackie Chan. Referred to famously by director John Carpenter as an "action/adventure/comedy/kung-fu/ghost story/monster movie", maybe that was the big trouble of the title: John Carpenter's movie was trying to be too much in one film, while smashes such as *Aliens* and *Top Gun* focused on one particular evocative theme.

Another problem, and one that would drive its director to independent filmmaking, was studio interference. 20th Century Fox clearly wanted an Eastern-inspired *Raiders Of The Lost Ark*; what it got was something very different to Indiana Jones' first adventure. As with most ideas, the movie began on the page, specifically writers Gary Goldman and David Z Weinstein who liked the notion of a Wild West-themed mystical adventure. Set in 19th century San Francisco, and originally titled *Lotus*, much of the eventual film's plot was familiar; after some name changes, the title *Big Trouble In Little China* was hit upon, and 20th Century Fox optioned its rights. The script, as was common, was sent to another writer, in this case W D Richter. Richter's first suggestion was to change the setting to a more contemporary one, yet his major alteration was

» [Amstrad CPC] Square-jawed all-American hero Jack Burton prepares to take on another villain

» [C64] A henchman leaps athletically towards the unfazed Wang Chi.

> **"You people sit tight, hold the fort and keep the home fires burning. And if we're not back by dawn... call the president"**
>
> Jack Burton



with the script's tone: gone was the serious undercurrent, replaced with a breezy lighthearted atmosphere that concentrated mainly on the wisecracking, and largely ineffective, Jack Burton. Fox shopped the script around to several of its regular directors, and the call was answered by long-time martial arts movie fan John Carpenter. With Carpenter assembling his production team, actor Kurt Russell was soon also attached for what would be the pair's fourth movie together. Together with a solid supporting cast, including James Hong as the demonic Lo Pan, Dennis Dun as Jack Burton's friend Wang Chi and Kim Cattrall as lawyer Gracie Law, production commenced in October of 1985 with a proposed budget of 25 million dollars.

In *Big Trouble In Little China*, macho truck driver Jack Burton meets up with his old friend Wang Chi. Accompanying Wang to the airport to pick up Miao Yin, his future bride, Jack interrupts an attempt by street gang The Lords Of Death to kidnap a friend of Gracie Law. When the Lords snatch Miao Yin instead, Jack and Wang trail the gang back to Chinatown where they witness a street battle between two ancient Chinese factions. When the scrap is broken up by ancient wizard Lo Pan's Three Storms (Thunder, Rain and Lightning), Jack loses his rig and meets up with the mysterious Egg Shen (Victor Wong). Pausing briefly for Jack to call his insurance company, the group infiltrate Lo Pan's domain to rescue Miao Yin and recover Jack's stolen truck.

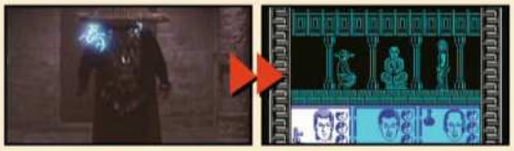
Electric Dreams Software, thanks to its connection with Activision, secured a number of notable film licences in the mid-Eighties. Often these required multiple deals, and this was the case with *Big Trouble In Little China*. An unknown quantity prior release, Electric Dreams secured the rights to a more recognisable property, *Aliens*, provided it took on

» (Top) [Amstrad CPC] Egg Shen fires a useful bolt of magic from his hand.

» (Above) [C64] The little character pictures were nice, but there's little else to recommend the C64 version.

MOVIE TO GAME COMPARISON

Was there any trouble between the film and videogame versions?

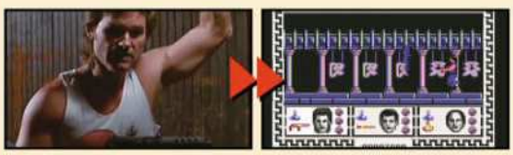


THE DEATH OF LIGHTNING

Jack and his pals encounter all three 'Storms' several times during the game, and they are eliminated in a similar manner to every other opponent. The most recognisable – thanks to the hat – is Lightning. Alas, the player doesn't get the chote to drop a bloody great rock on his bonce.

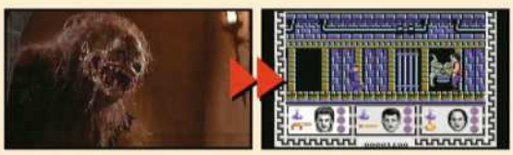
HEL-LO PAN

Lo Pan is a tricky boss. Flying around the screen, hurling magic at the hero, he's best taken out with Egg Shen's own magic – which is somewhat at odds with the evil wizard's abrupt demise at the hands of Jack Burton's reflex knife action in the movie .



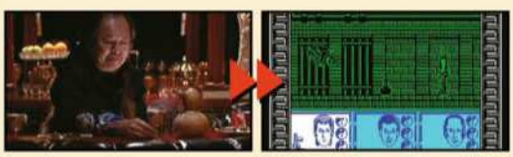
NOW I HAVE A MACHINE GUN

Did you know there's an Internet Movie Firearms Database? It exhaustively documents all of the weapons from *Big Trouble In Little China*, including the TEC-9, which Jack pinches from one of Lo Pan's minions, and subsequently wields throughout most of the movie and game.



THE MYSTERY BEAST

Despite having no name or explanation in the movie, this hairy beast has become a memorable character in the movie. It makes a brief appearance in the game, popping out annoyingly from the background every now and then to unavoidably deplete the player's energy.



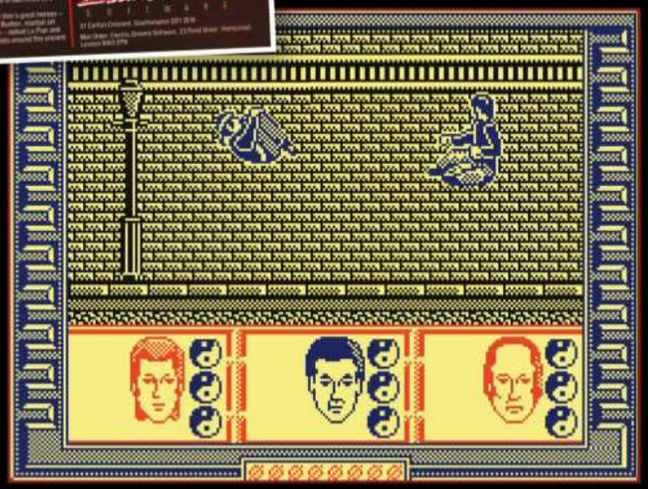
EGG SHEN BREW

Prior to the battle with Lo Pan's hordes, Egg Shen hands out his magic potion, a concoction that amplifies all of the good guys' abilities. While its effect on Jack himself appears to be negligible in the movie, the game's affects Egg Shen by increasing the length and power of his magic bolt.

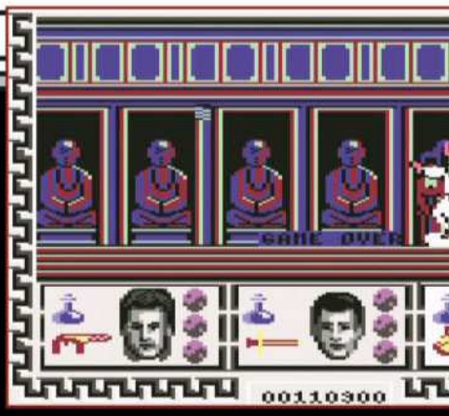
▶ the Carpenter movie as well. Development on *Aliens* commenced in-house, while *Big Trouble In Little China* was outsourced, and from here the game's origins become a little muddled. It's clear it was originally handled by an outside team, most likely Source Software Ltd, who for reasons lost in the mystical mists of time, failed to come up with the goods. With the deadline for Christmas looming, the manager of Activision's Software Studios, Jon Dean, asked Mev Dinc and his team to help. "We'd done a good late job on the Amstrad version of *Enduro Racer*," explains Mev. "As the saviour, then, they asked me again. I didn't really want to, as we were already busy on *Aliens*." But Jon and Electric Dreams' Rod Cousens were most persuasive. "We had some files from the original developers, but it transpired not much had actually been done save some mocked-up screens," Mev says. "We more or less started from scratch and had around two months to finish the game on the Spectrum, Amstrad and Commodore 64!" Mev himself coded the Spectrum and Amstrad versions, with Edwin Rayner handling the C64 game. Nick Cook completed the team as artist, while Jon Dean oversaw production of both *Big Trouble* and *Aliens*. John continues, "*Big Trouble In Little* China was one of a handful of games all trying to make a 'golden window' – to be approved and manufactured before Christmas 1986. So we asked the game teams – including Mev and Nick – to come to our building in Southampton and essentially stay there until we had the gold masters." For a number of weeks, the Software Studios offices on the south coast were in chaos, as the cramped environment was stuffed with extra staff, sleeping bags and empty fast food detritus. It wasn't the ideal situation in terms of producing a faithful, entertaining videogame version of the movie. "It had all the right ingredients for a great game," says Mev. "Possibly a cross between an arcade adventure and a beat-'em-up? Sadly, it ended up as a quick rescue project – we didn't have time to change the design. "

That design for *Big Trouble In Little China*, save for the unusual decision to have the game scroll from right to left, is a run-of-the-mill fighting game where the player takes control of one of three characters from the

> **"A brave man likes the feel of nature on his face, Jack"**
> Wang Chi

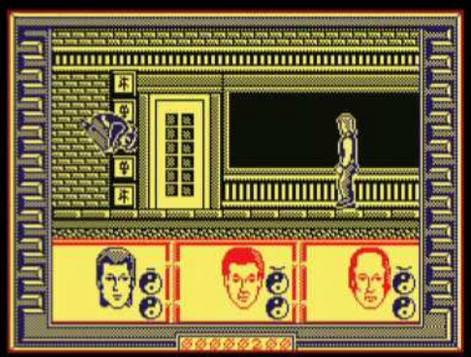


» [Amstrad CPC] The Amstrad port of *Big Trouble* fails to capitalise on the system's strengths.



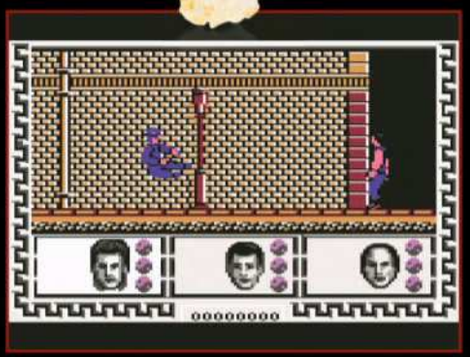
» [C64] Egg Shen leads the way through this corridor – but this is no time to be surfboarding!

NOTABLE VERSIONS



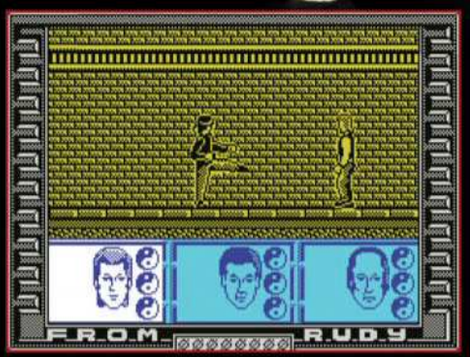
AMSTRAD CPC

■ It's debatable whether the Amstrad version is better or worse than the Spectrum. It's probably on a par, as there's more colour (although some of the scheme choices later are odd – purple bullets anyone?), but the scrolling is noticeably clumsier. The gameplay is sadly lacking – there's simply not enough to do other than slog across each level, offing the occasional baddie.



COMMODORE 64

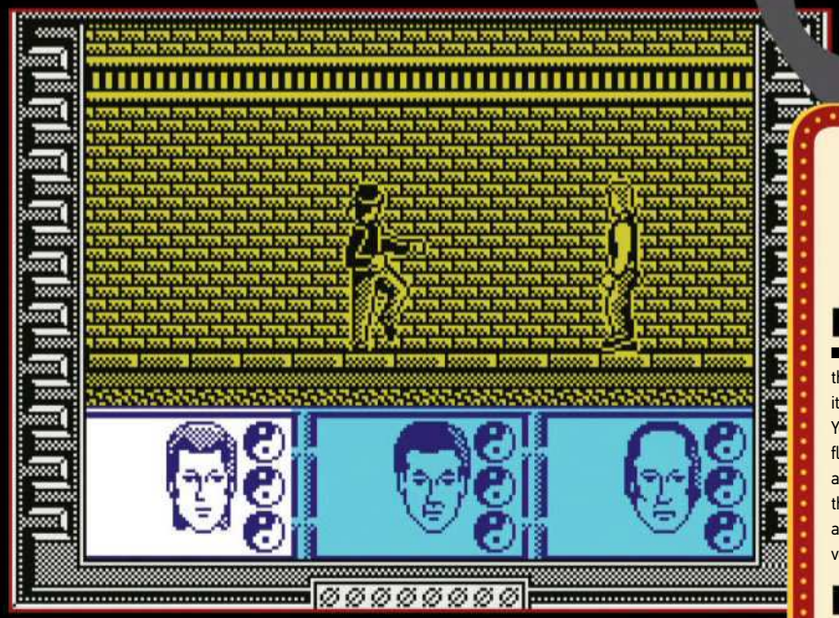
■ Alas possibly the poorest of the home computer interpretations of the movie, and a huge disappointment to Commodore fans. The bland, boring gameplay is made even worse thanks to some unattractive, blocky sprites, and even the sound – which is normally the minimum redeeming point on the Commodore computer – is lamentable.



ZX SPECTRUM

■ The Spectrum game, coded by Mev Dinc, is at least graphically pleasing, despite a monochromatic main screen. It's another missed opportunity, however. Once you get over the novel right-to-left scrolling, boredom is inevitable as Jack and his chums trudge through the repetitive scenery, occasionally encountering a lone henchman from Lo Pan's army.

» [ZX Spectrum] There's less colour options on the Spectrum, but this version has impressive scrolling.



» [ZX Spectrum] The game begins in the alleyways of Chinatown.

film: Jack Burton, Wang Chi or Egg Shen. The trio advances across the display together until a lone enemy appears. At this point, the two characters not under the player's control scarper off-screen, and it's left to the remaining hero to kill the henchman. Each of them has a bespoke power-up: Jack, a machine gun, Wang Chi a sword and Egg Shen a bottle of potion that greatly increases the range and power of his magic bolts. Bowls of rice can be collected that restore any energy lost as the player progresses across the levels until the final encounter with Lo Pan. As usual, much of the look of the game was taken from material such as production stills and the script. "That script we worked on was not a cult classic," notes Jon. "It was an unknown movie from first-time writers. It had just been released in the US when we started work on the game, and we soon knew it had been a total dud and failure Stateside." For Mev and his team, the time pressure was intense, but another project ultimately took precedence. "The *Aliens* game was a very important title for Activision – that absolutely had to be done to make the Christmas release."

Big Trouble In Little China the videogame crept out in the spring of 1987 and was met with similar levels of enthusiasm to the movie. Reviews varied, but were generally mediocre. Mev has conflicting memories of the result of his team's efforts. "It was a good licence, but some people were disappointed. If I'd been more involved in the design, or had more time, I'm sure we'd have gone for something completely different. The movie had all the right ingredients and potential for a game." With all three versions practically identical in terms of gameplay, Mev is proud of some of its technical aspects, if nothing else. "The scrolling was very good and fast on the Spectrum, which it wasn't really very suitable for. And it had some nice elements, like the way you could change character instantly and continue playing the game." The fact the movie was a flop didn't help matters, although this bemused the team, as Jon recalls.

"When we saw *Big Trouble*, we loved it and couldn't understand why it failed at the box office!" he exclaims. "We also realised there were a lot of other things we could have done with the game." Today, while its 8-bit translation remains a missed opportunity, and a microcosm of the pressure many developers were under back in the Eighties, *Big Trouble In Little China* is still a wonderful movie, whether watching for the first or umpteenth time. And we're pretty sure 'ol Jack Burton, who is no doubt still cruising around in his rig, would agree. ★

ARTISTIC LICENCE

Did that really happen?

FLOATING EGG SHEN

■ Egg Shen is the first major character the audience meets in the movie, and it's clear he's a man of many talents. Yet, at no point in the movie does he float on bread as he does in the Spectrum and Amstrad versions.

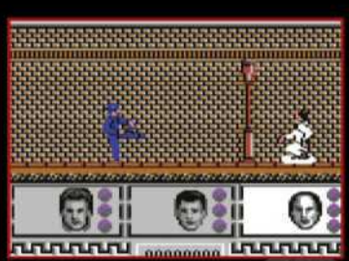
FUNNY PHOTO FITS

■ The C64 version of *Big Trouble* has blocky graphics, but underneath the main game screen are a trio of decent portraits. Shame they look nothing like the characters from the film they are supposed to represent.

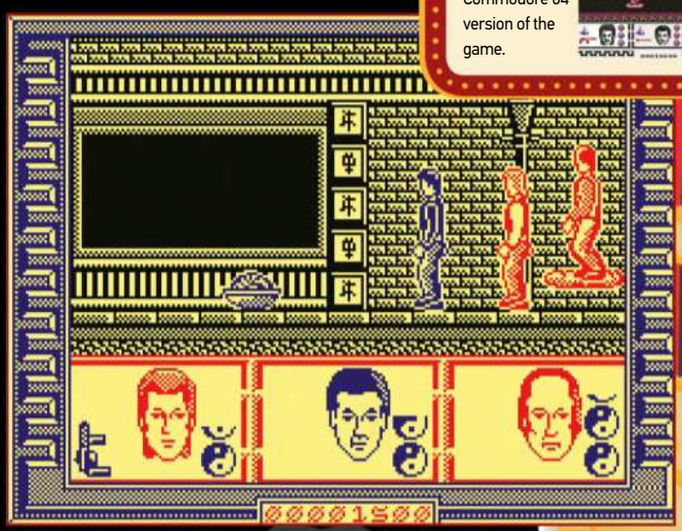
NOT RIDING THROUGH THE GLEN

■ The evil Lo Pan has two guises in *Big Trouble In Little China*: a wrinkly old man and a younger incarnation. However, he never resembles Robin Hood, as seen in the conclusion to the Commodore 64 version of the game.

» [Amstrad CPC] For some bizarre reason the second level on the Amstrad is much darker



» [C64] This ninja might look tough but he won't be too hard for you to dispatch.



» [Amstrad CPC] Jack Burton clearly isn't feeling lucky as he's dropped back to second place. Maybe it isn't "all in the reflexes"…

THE UNCONVERTED

Arcade games that never made it home

FIGHTING LAYER

DEVELOPER: **ARIKA** YEAR: **1998** GENRE: **FIGHTING**

If you know Arika for anything, it's probably either the *Tetris: The Grand Master* series or the developer's involvement in the *Street Fighter EX* series. While the latter isn't the most fondly remembered branch of the venerable fighting game franchise, it is certainly one of the better early attempts to marry polygonal graphics with the tried-and-tested mechanics of 2D fighting games, and some of the character designs were certainly interesting. That's the first reason why *Fighting Layer* is so intriguing – Blair Dame and Allen Snyder from *Street Fighter EX* actually made their way into an otherwise original cast of combatants.

Of course, character cameos aren't the only things that make *Fighting Layer* interesting. The game utilises a standard six-button control layout and walled 3D arenas, but has a number of distinguishing features. For a start, it's one of the earliest games we can think of that utilises the auto-combo, in which you repeatedly tap a light punch or kick button to produce a string of different attacks. It's also got non-linear stage progression and a bonus stage in which you can fight an incredibly powerful armoured knight.

However, there are bits where *Fighting Layer* gets truly bizarre. For example, one late fight is a single-round bout against an animal. We're not even sure how your character is supposed to breathe underwater, but it's entirely possible to fight a shark in this battle, which is no easy task. The final boss is also a nightmare, as he possesses the ability to not only block your moves, but switch places with you and complete them for you, hitting you in the face with your own punch. This is, as you might imagine, incredibly frustrating to fight against.

Fighting Layer would likely have needed a bit of work to run on the PlayStation, but could easily have shown up in enhanced form on the Dreamcast or even the PlayStation 2. However, it doesn't appear to have made a splash in Japanese arcades, scuppering any chance of a conversion. The good news is that despite this, Arika is developing a spiritual successor for PlayStation 4 called *Fighting EX Layer*, which brings in some more *Street Fighter EX* characters including Skullomania and Hokuto.

■ It's possible to cancel into special and super attacks from a variety of different situations – here we've gone from an auto-combo to a special move.

■ This golden dragon icon shows that it's possible to pull off a 'Super Illusion', an invincible side roll which instantly charges your super meter to full.

■ Unsurprisingly, the shark doesn't have the properties of normal enemies – it doesn't have standing and crouching poses, for example.

■ Getting bitten by the shark deals massive damage, so you don't want to stay close to it. Of course, it can perform a nasty dash attack too, which makes that tough.

CONVERTED ALTERNATIVE

STREET FIGHTER EX PLUS

1997

■ *Street Fighter*'s first foray into the world of polygons was developed by Arika, and it plays pretty similarly to *Fighting Layer*. This game obviously pulls most of its characters from Capcom's series, but Blair and Allen both show up here prior to taking on their more prominent roles.

BATTLE K-ROAD

DEVELOPER: **PSIKYO** YEAR: **1994** GENRE: **FIGHTING**

■ Psikyo is a developer known for its shoot-'em-ups, and although this fighting game is certainly an interesting experiment, you can see why it didn't spend much more effort on the genre. *Battle K-Road* is a visually bland game that pits 14 fighters against each other, with seven different styles: karate, boxing, kickboxing, sambo, sumo, jujitsu and mixed martial arts.

What's interesting about *Battle K-Road* is that it dispenses with most of the genre's conventions. The game concentrates on providing a realistic combat experience, so there are no projectile attacks or super moves, and what special attacks exist are all performed by momentarily holding and releasing the hard punch or kick button. Damage is dependent on how strongly and cleanly you strike your opponents, rewarding good timing, and if you're knocked down the fight is halted to allow you to get up. If you find memorising move lists and stringing together combos frustrating, this alternative style might suit you.

» [Arcade] This palm strike doesn't look like much, but it's a devastating move by Battle K-Road's standards.

Strangely, though *Battle K-Road* is mostly realistic (save for the two cyborg fighters), the game discards this conceit at the end of the game, pitting you against Mr Bear – an actual bear – before rolling one of many odd ending sequences.

CONVERTED ALTERNATIVE

PRIDE GP 2003

2003

■ There's a dearth of realistic fighting games, and this effort from Capcom plays completely differently to Battle K-Road, being connected more by the theme of clashing martial arts styles. However, it does manage to capture the feel of Pride, then the most prestigious mixed martial arts organisation in Japan.

CONVERTED ALTERNATIVE

SAMURAI SHODOWN IV: AMAKUSA'S REVENGE

1996

■ When you think of weapon-based 2D fighting games, *Samurai Shodown* is one of the first to spring to mind. This fourth entry in the series would have been the most recent when *Asura Blade* hit arcades, and combines great visuals with a superb fighting system.

ASURA BLADE: SWORD OF DYNASTY

DEVELOPER: **FUUKI** YEAR: **1998** GENRE: **FIGHTING**

■ It's a shame that Fuuki is such an obscure company, because it put out some cool 2D fighting games a bit too late to catch the genre at its commercial peak. *Asura Blade* is a 2D fighting game in which every character carries a weapon, and seeks the titular 'Sword Of Dynasty' which supposedly has the power to grant any wish. The game features an unusually light three-button setup, with light, medium and heavy attacks. The easy-to-learn system features quick wake-ups, powerful EX special attacks, 'launcher' special moves and more.

One of the most interesting features of the game is unarmed combat. By pressing all three buttons together, your fighter will throw their weapon. Not only does this work as a projectile attack, it enables a hand-to-hand style which can change styles mid-battle – for example, the character Goat becomes more nimble and less powerful after discarding his blade. This opens up a fair bit of strategy. While *Asura Blade* never got a home conversion, it was given a sequel two years later in the form of *Asura Buster: Eternal Warriors* – another game which didn't receive a home conversion.

» [Arcade] Goat's main weapon is the big sword he carries, so he can still use this special when unarmed.

BEST LEFT IN THE ARCADE

SOLITARY FIGHTER

DEVELOPER: **TAITO** YEAR: **1991** GENRE: **FIGHTING**

■ Here's a fighting game which hit arcades around the same time as *Street Fighter II* – and when you compare the two, it's easy to see why Capcom's game is the one that people remember. *Solitary Fighter* is the sequel to *Violence Fight*, and like its predecessor pits you against a single opponent per round, who must be pummelled into a pulp with your fists and feet. Sometimes you'll have freedom of movement around an arena as in *Pit-Fighter*, and you can be attacked by knife-wielding women and a bottle-lobbing crowd. At other times, you're strictly limited to a 2D plane of battle.

In either case, the game is unappealing. Characters are bland and have dumb names like Lick Joe, and the fighting is utterly devoid of skill and technique. Winning a game doesn't feel rewarding, unless you like bad voice clips and inexplicable winning screens. Unlike its predecessor, *Solitary Fighter* never ended up on the *Taito Legends* compilations, presumably because they'd have ended up banned under the Geneva Conventions.

From the Archives
Low Noise
60
LOOKING GLASS
TECHNOLOGIES
intel inside

It created some of the most influential games of all time and produced a wealth of talent that would go on to shape the industry long after its demise. Paul Walker-Emig explores the roots of Looking Glass' enduring legacy

Looking Glass Studios was a studio that was always at the edge. It was at the edge technologically, a pioneer in the world of 3D gaming. It was at the edge creatively, taking risks that produced classic games with an enduring influence. In part because of its creative brinksmanship, it was also often on the edge financially and, eventually, fell into the precipice.

The studio was cofounded by Paul Neurath and Edward Lerner, who met at college. Their first major collaboration, *Deep Space: Operation Copernicus*, was not a success and the two parted ways. Edward founded Lerner Research and developed *Chuck Yeager's Advanced Flight Simulator* for EA, and Paul went to work with Origin Systems on titles such as *Space Rogue*. When Origin decided to relocate from Southern New Hampshire to Austin, Texas, Paul decided to found his own studio, Blue Sky Productions. There, Paul and his team would create a game that, in many ways, embodied what Looking Glass was to become: *Ultima Underworld: The Stygian Abyss*.

"I had done an experiment in the late Eighties where I got a very simple texture mapper working on an Apple IIGS," Paul recalls. "It was barely fast enough to draw five texture maps in real time, but I knew it could work if I had a more powerful system. Fast forward a couple of years to 1990 and the IBM PC, I think it was a 286 class at that time, it was just capable enough to do real-time texture mapping on a very limited basis. For *Underworld*, we couldn't do the whole screen, so we cut out a window and then created a UI around it."

Edward offers a nice anecdote that helps illustrate just how technologically impressive *Underworld* was at the time. "John Carmack, who wrote *Wolfenstein* and all those wonderful ID games, he saw *Ultima Underworld* at E3," he says. "He basically went, 'Oh shit!', and went home and, because he was a genius, within like a month he had duplicated the tech and actually done it better."

That pushing of technical boundaries that *Ultima Underworld* represented would come to be a Looking Glass trait. The game also set a template for the kinds of experiences the studio would come to be known for. "I've been a role-player – pen-and-paper D&D and games like that," says Paul. "I wanted to try and marry that role-playing – you play through a narrative and make choices with characters and make choices of which factions you support or not – together with this immersive first-person experience. I didn't know where it would go. There was some sense of, 'We're just going to try this and see if it works,' knowing that it might not, but it did. Once it worked, we said: 'Let's do more of this.' *System Shock*, and *Thief*, and all of that came out of that source."

> **"I walked into that place and it took me five minutes to realise that I was the stupidest person in that room"**
> Warren Spector

Of course, before *System Shock*, *Thief*, and the rest, there was the founding of Looking Glass. Though Paul and Edward had parted ways after developing *Deep Space*, they had continued to collaborate both formally and informally, including on *Ultima Underworld*. The duo eventually decided to merge Paul's Blue Sky Productions with Edward's Lerner Research in 1992 and Looking Glass was born.

"I remember the first time I flew up there, many members of the team were living together in a house that they called 'Deco Morono' – the house of ten dumb guys," begins former Looking Glass developer Warren Spector, recalling what kind of place Looking Glass was to work. "I walked into that place and it took me five minutes to realise that I was the stupidest person in that room. And it was great. Hanging out with people that smart and that talented and that dedicated was pretty incredible and I think speaks to the quality of the games that they made."

Recruiting a bunch of smart talent – in particular, Looking Glass recruited from MIT – no doubt helped in what the studio would go on to achieve, but just as crucial was the environment they were working in. ▶

INSTANT EXPERT

- Seamus Blackley, who developed physics systems for titles like *System Shock* and *Flight Unlimited*, went on to form a key part of the team that developed the original Xbox.
- Looking Glass only received approximately a 20 per cent cut of sales from its early Origin and EA-published titles.
- Looking Glass started with around 12 people.
- The studio was based in Lexington, and later Cambridge, Massachusetts. It also opened an office in Austin, Texas.
- Looking Glass employees went on to work at Ion Storm's Austin branch, Valve and Irrational Games, among others.
- The company is credited with innovating the 'immersive sim' genre.
- *BioShock* and *Dishonored* are considered spiritual successors to Looking Glass' *System Shock* and *Thief* respectively.
- Looking Glass' games are considered one of the most influential titles of all time thanks to their emergent gameplay and strong focus on player choice and freedom.

» Warren Spector stands outside the Looking Glass Austin Office on the day of its opening as the studio expanded from its home base in Massachusetts.

TIMELINE

1992
■ Paul Neurath's Blue Sky Productions and Edward Lerner's Lerner Research merge to create Looking Glass Studios.

1993
■ Looking Glass releases its debut game, *Ultima Underworld II: Labyrinth of Worlds*.

1994
■ *System Shock is* released. Though now known as a genre-defining title, it lost the company money at the time.

1995
■ Looking Glass tries self-publishing for the first time with *Flight Unlimited*. It's a big success.

■ Viacom comes on board as an investor.

1996
■ *Terra Nova: Strike Force Centauri*, a squad shooter, emerges from a troubled development. It is not a commercial success.

1997
■ Looking Glass is bought by Intermetrics (later renamed Averstar) after Viacom pulls out as an investor.

■ The studio faces more financial peril with the release of *British Open Championship Golf*, another game that fails to recoup its costs.

■ *Flight Unlimited 2* is released and sells well, helping the company absorb the financial hit it took from its last two titles.

1998
■ *Thief: The Dark Project* is released to critical acclaim from the press. It is the company's biggest financial success.

1999
■ Two Looking Glass-developed Nintendo 64 ports are released: *Command & Conquer* and *Destruction Derby 64*.

1999
■ *System Shock 2* is released. It is now considered one of the gaming greats, but performed poorly commercially.

■ *Flight Unlimited 3* is released. Unlike its predecessors, it isn't a commercial hit.

2000
■ Looking Glass releases its final game, *Thief II: The Metal Age*.

■ Financial problems finally catch up to Looking Glass and the studio is closed.

» [PC] Looking Glass' first game picks up one year after the conclusion of *Ultima VII: The Black Gate*.

▶ "We were literally trying to invent the future of games," says Edward. "On some level, we wanted that VR future that you could read in a book like *Neuromancer* or *Snowcrash* and were trying to kick that thing off. There was a tremendous amount of discussion about what we were doing and what the future would be. It was a culture where everyone was kind of an equal in that we were all figuring it out, so it was a very flat structure and everyone's opinion was valued," he continues. "A bunch of other game companies ended up with a similar kind of culture. I think the ones that come to my mind are Valve and Naughty Dog."

Paul tells us that team ethos was key to what the studio was able to achieve. "We really celebrated the teams," he says. "We had some more than standout people – developers like Doug Church, he's a genius – but we worked really hard at bringing together diverse skillsets." Paul explains that the team ethos was complemented with a commitment to creative risk taking, inspired by Chris Roberts and Richard Garriott, who he met when working at Origin Systems. "They are people who are willing to gamble on some new design and maybe it works or it doesn't work. I brought that piece of the spirit to Looking Glass."

The studio's first project was a sequel: *Ultima Underworld II: Labyrinth Of Worlds*. The game was well-received and performed well commercially, but it left Looking Glass with an appetite to do something different.

"We'd spent three very intensive years on the two *Underworld* games," says Paul. "All of us said: 'We don't want to do another fantasy RPG for a bit. We want to continue with the immersive simulator and RPG-ish space, but let's do it in a different context.' The other thing is that we just wanted to explore the genre in a different way, so *System Shock* became a good platform to do that because of the bio upgrades, and the hacking, and the cyberpunk elements. It brought a whole different dimension to role-play."

"I was as sick of fantasy games as Paul having worked on several *Ultima* games and *Underworld* and *Underworld II*," echoes Warren. "I had a design spec for a game that was called *Alien Commander*, which was going to be a first-person science fiction game using the *Wing Commander* technology, and then along comes Paul with *Citadel* [*System Shock*'s original title] and I just dumped the *Alien Commander* proposal and *System Shock* went ahead."

» The Looking Glass team celebrates after successfully shipping a game.

System Shock's importance in the history of videogames is now well established, regarded as it is as one of the most influential games of all time. However, the game was not a success at the time, losing the company money and raising difficult questions about the studio's direction.

"To be honest, my confidence was somewhat shaken," Paul admits. "It was the most ambitious in the scope of design. Unproven elements all thrown in the mix. It was kind of crazy; we were aware of that. There was some questioning of are we going too far out on a limb on this and so we weren't certain what the commercial success may or may not be when we launched. When we look back on it in hindsight, we fully recognise the user interface was too demanding. Now you talk about ramping people in, layering stuff on so you're not throwing everything at the player day one. *System Shock* didn't even attempt to do anything like that!"

"Look at the opening 'help screen' and hear the air quotes around help," Warren chimes in. "It is astonishing. We thought it was a good idea to use every key on the keyboard or something!"

Paul concedes that the lack of accessibility hurt the game's commercial success but reveals there were other factors, too.

EA acquired Looking Glass' publisher, Origin Systems, prior to *System Shock*'s release and, in Paul's words, "They didn't get it." Indeed, EA came close to cancelling the game mere months before its release. It didn't go that far in the end, but EA's ambivalence towards *System Shock* still had an impact. "This is still retail days," Paul explains. "If you didn't have good retail shelf space, your game would not do well. EA senior management and sales couldn't get their head around it, it was too weird, and so [they] had low expectations. In that era, that led to you capping your sales potential. We didn't get much marketing and retail."

"In fact, I remember going down to the marketing department and getting into a shouting match with them," Warren recalls. "The short version is me shouting, 'What do I have to do to get

DEFINING GAMES

ULTIMA UNDERWORLD II: LABYRINTH OF WORLDS

■ This game wasn't as groundbreaking as its predecessor, nor Looking Glass' next game, *System Shock*, but it was still very well-received and represented a significant title for the studio. *Ultima Underworld II* was Looking Glass' first game, bridging the gap between what cofounder Paul Neurath and his team had been doing with *Ultima Underworld* and what the company would go on to achieve with its seminal sci-fi immersive sim, *System Shock*. The game's events take place after *Ultima VII*, rather than *Ultima Underworld*, and sees you travel across multiple dimensions on your dungeon-crawling quest.

SYSTEM SHOCK

■ In this innovative first-person RPG, you play as a nameless hacker trapped on a space station controlled by a rogue AI called SHODAN. The game blends combat, puzzle-solving, and non-linear exploration of both physical environments and cyberspace in a setting that mixes sci-fi with horror. The game expanded on the kind of emergent gameplay that Looking Glass employees had previously experimented with in the *Ultima Underworld* series, as well as innovating with the introduction of a complex physics system, among other things. It is now rightly regarded as one of the most influential titles of all time.

FLIGHT UNLIMITED

■ Looking Glass' first flight simulator pulled on the experience of Edward Lerner and his team (which had developed *Advanced Flight Simulator* as Lerner Research), as well as the physics wizardry of Seamus Blackley. The game offered guided lessons, time trails and a mode where you have to keep a powerless aircraft in the sky for as long as possible. *Flight Unlimited* was a significant title for the studio as it marked its foray into self-publishing. Indeed, without *Flight Unlimited*, and its successor, *Flight Unlimited 2*, Looking Glass would likely have had to close as a result of the financial failure of titles such as *System Shock*.

THIEF: THE DARK PROJECT

■ Not content with creating one genre-defining series in the form of *System Shock*, Looking Glass is also responsible for innovating the stealth genre with *Thief*. The game's pioneering use of light, shadow, sound and AI, combined to create a compelling stealth experience built on the intersection of those mechanics. The game is also a great example of the value Looking Glass placed on player freedom. The studio would go on to make a sequel, *Thief II: The Metal Age*. Ion Storm then picked up the baton with *Thief: Deadly Shadows* and the series was rebooted by Eidos Montreal in 2014.

a hit around here!' and the answer was a very quiet, very calm, 'Sign Mark Hamill to star in your game.' That was the thinking at the time."

The commercial failure of *System Shock* was, unfortunately for Looking Glass, not an aberration. *Terra Nova: Strike Force Centauri* (1996) and *British Open Championship Golf* (1997) both failed to recoup development costs, tightening the screws on a company that had always operated on thin margins. Looking Glass was only able to survive these successive commercial failures thanks to the success of *Flight Unlimited* (1995) and *Flight Unlimited 2* (1997). Those flight simulators kept the company's head above water as it went into development on what would come to be another difficult, but ultimately defining, project.

"We were about a year and a half into the project, and I'm not counting the first four or ▶

» [PC] *System Shock* may well be a classic, but even its developers admit it doesn't have the most intuitive UI.

> **"I remember going down to the marketing department and getting into a shouting match with them"**
> Warren Spector

» [PC] *Ultima Underworld II* features a large HUD and inventory, introduced because of technical limitations that made it difficult to go full-screen with its 3D texture-mapped world.

BOUNDARY PUSHERS

Looking Glass' tendency to push at the boundaries was present in its founders from day one. Edward Lerner tells a story about cofounder Paul Neurath spending half a year rewriting the Apple II's operating system because he wanted to get a little bit more power out of it. "If we had gone to Apple and said, 'By the way, we rewrote Steve Wozniak's operating system and we made it 20 per cent smaller and faster, I think we could have gotten rich, but it took ten years to realise that was probably a lot more valuable than all the other work we did!" says Edward.

DNA OF LOOKING GLASS STUDIOS

INNOVATION

■ Looking Glass was established with a design philosophy to innovate with its games, and the team frequently broke new ground, both in terms of technology, game design, and mechanics. The studio is known for innovating on 'immersive simulators': games that are typically non-linear in their approach, give the player freedom to take their own path towards achieving their goals, and that encourage emergent gameplay.

IMMERSIVE GAMING

■ Pushing technological boundaries was one of the ways in which Looking Glass sought to create the most immersive gaming experiences possible, particularly when it came to first-person gaming. Amazing 3D environments like that of *Underworld II*, revolutionary physics systems that introduced effects like recoil in *System Shock*, and realistic implementation of sound reverb in *Thief* are a few examples.

PLAYER FREEDOM

■ Looking Glass games value player freedom intensely. In *System Shock 2*, for example, the choices you make in how you upgrade your abilities allow you to create a character geared towards the way you want to play the game. Depending on how you develop, your character, different opportunities will be presented to you, meaning every playthrough feels unique.

RISK TAKING

■ Looking Glass' commitment to its ideas and its willingness to take creative risks was one of its most admirable traits. This often caused the studio financial difficulty, but without that attitude, we never would have gotten games like *Thief*. The studio was a year and a half into development before it managed to get stealth working. Without its risk-taking approach to game development, the game surely would have been abandoned.

THE TALENT

■ Great games are made by talented people, and Looking Glass had no shortage of those. The likes of Warren Spector, Doug Church, and Ken Levine, are just a few of the many talented individuals who worked at the studio and went on to do great things after they left.

FINANCIAL STRUGGLES

■ The company always operated on tight margins, and for every success, there was a failure that drained the money the studio made. Ultimately, it would kill the company.

▶ five months where we were trying to figure out what game we wanted to make, before we even got stealth working," Paul recalls of *Thief: The Dark Project*'s troubled development. "It was getting a bit desperate because we weren't sure we could pull it off and if we didn't have stealth working, we didn't have a game. If it had taken another two or three months to get stealth working, I think Eidos would have just cancelled it and it probably would have killed the studio. It was a stressful time."

Paul remembers a "heroic" intervention from a team member that saved the project. "We had an AI system that kind of worked half the time and half the time was completely broken. We'd been trying to fix it for months and months," Paul explains. "Our lead engineer on the project, Tom Leonard, came up with a new approach. He pitched it and we said, 'Let's just give it a try.' Literally three weeks later he had rewritten the AI system and it worked brilliantly. We had other pieces come together," Paul continues. "Around the time we had a sound system to do sound propagation, reflection, attenuation off walls, which was key to making stealth work. That came online robustly around that same time. A few of these pieces fell into place and, suddenly, we had a game. The rest is history."

Paul tells us that *Thief* was the most successful game Looking Glass ever made. It was a vindication for the team that the kind of games they were interested in making *could* make money. The studios commitment to pushing the creative boundaries, even when things looked desperate, had finally been rewarded.

Unfortunately, it wasn't a case of onwards and upwards. The studio would face more problems with its next big project: *System Shock 2*. "When we came out in 1999, that was months after the high school shooting in Columbine," Paul remembers. "Larry Probst, who was the CEO of EA at the time, he reached out and said, 'We may just want to walk away from doing shooters because there's talk of those shooters causing these kinds of events.' We had this meeting where we made our case that *System Shock* does not reward you for going in there and shooting everything that moves. You will lose if you do that; it's a thinking person's game. I think we halfway convinced them," Paul remembers. "We convinced them enough

» [PC] Rogue robots are just one of the many enemies the twisted AI SHODAN puts in your way in *System Shock*.

» [PC] Stealth is the order of the day in the *Thief* series, but that doesn't mean you're not going to end up in a duel with a guard now and again.

> **"That ended up being extremely painful and difficult"**
> Paul Neurath

to release the game, but they did almost zero marketing and they put it in the bargain discount $9.95 bin 45 days after the game launched. It never stood a chance to make any money. That really hurt us financially."

Looking Glass would go on to create another successful game in *Thief II: The Metal Age*, but it wasn't long after that the studio would close its doors for good. Why wasn't the success of *Thief II* enough to save Looking Glass this time around?

"The answer is complicated," says Paul. "Our largest investor was Viacom, who came in the mid-Nineties. It all made perfect sense then, because they had just bought Virgin Interactive and had a couple of other studios. They were really building their game business as a Fortune 100 media company." Not long after investing in Looking Glass, however, Viacom decided it wasn't interested in games after all. It quickly sold off its studios and wanted out of Looking Glass, too. "That ended up being extremely painful and difficult," Paul recalls. "We had no choice but to sell the studio to get our lead investor's cash out."

In the scramble to find a buyer, Looking Glass ended up being acquired by Intermetrics, who later changed their name to Averstar. "Averstar was a mid-size company doing, I don't know, $80 million in revenue, but it was mostly for like General Motors creating the computer software for their cars," Paul explains. However, Averstar also had a small group enamoured with the Nintendo 64. They saw Looking Glass as a means for them to acquire the skills and credibility they needed to make their own games for the system. "We ended up over the next two years taking literally all of the profits we were making on games like *Thief* and pouring it into their team doing N64 games, which was a separate division under our hood," Paul says. "We ended up with several million dollars of debt by the time 2000 rolled around on these Nintendo 64 games. When in the final stretch *System Shock 2* sold extremely poorly, mostly because of the Columbine shooting, we had a couple of other things happen around the same time, and carrying over two million dollars in debt load, our parent company basically just said, 'Guys, we want to sell you off for pieces.' And that's what happened."

As sad as it is that a pioneering studio like Looking Glass had to close its doors, we can take heart in the fact that its legacy lives on. Its games are now recognised as some of the most important in videogame history and the people that worked on them have gone on to create a host of classics infused with Looking Glass DNA: Warren Spector and a number of former Looking Glass employees would develop *Deus Ex* at Ion Storm, *System Shock 2* designer Ken Levine went on to direct *BioShock*, and a man who got his first break on *System Shock*, Harvey Smith, became known for creating *Thief*'s spiritual successor, *Dishonored*, to name but a few.

"I like to think it's not a coincidence," says Paul of the wealth of talent that's come out of Looking Glass. "We saw our job as developing the people, developing the talent. Putting them in a position where they could learn and stretch themselves. Taking creative risks. I think that culture carried on for people like Ken and others."

"The level of thinking about game design and about the design of the game's we were making was profoundly deeper than any place else I've ever worked," Warren reflects. "I think a lot of it was that sense of mission. Not just a sense of 'this is what we all want to do', but that it was somehow important. I remember looking at the games we were making and thinking, 'Why doesn't everybody make games like this?' This is what games can do that no other medium can do and we have a real chance to change the world of games." Warren closes by expressing a sentiment that feels emblematic of the commitment this special studio had towards what it was doing. "If I can't make games like this, like the Looking Glass games, I'm going to stop making games." ✱

WHERE ARE THEY NOW?

PAUL NEURATH

■ In 2013, Looking Glass cofounder Paul Neurath started Otherside Entertainment, an indie studio with a familiar Looking Glass philosophy. And indeed, the company is working on sequels to some Looking Glass classics – *Underworld Ascendant* is due for release in 2018 and the company is also working on *System Shock 3*.

WARREN SPECTOR

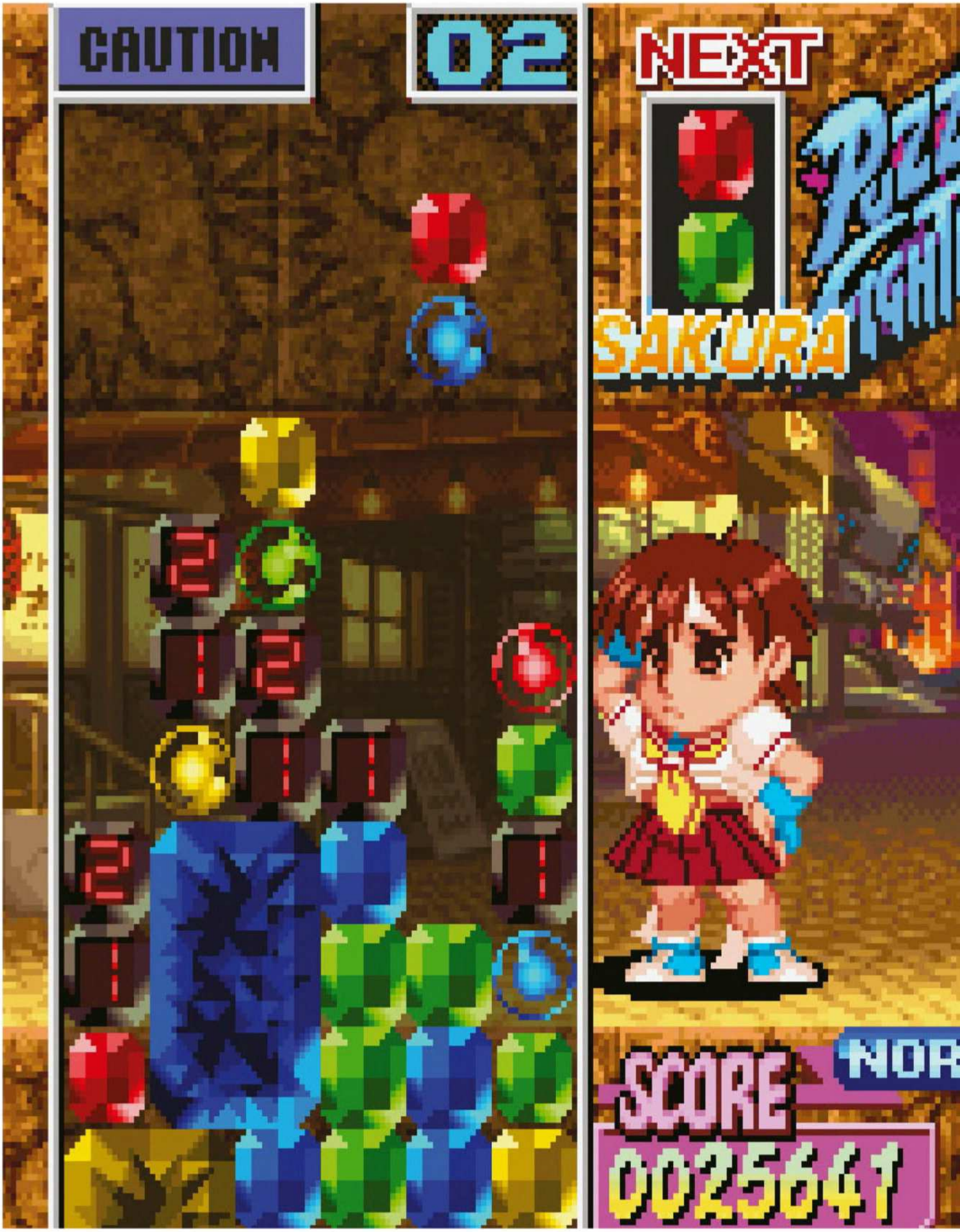
■ After leaving Looking Glass, Warren went on to develop *Deus Ex*, *Deus Ex: Invisible War* and *Thief: Deadly Shadows* at Ion Storm. In 2005 he founded Junction Point and developed two *Epic Mickey* games for Disney. Warren now works at Otherside where he is assisting with the development of *Underworld Ascendant* and *System Shock 3*.

EDWARD LERNER

■ Looking Glass cofounder Edward Lerner developed *FireTeam* after leaving the studio and went on to work for EA and Sony as its director of tools and technology. He left Sony in February 2017 to become CEO of a startup called realStadium.

» [PC] Two dangerous hybrids dash towards the player in *System Shock 2*.

» [PC] A plane soars through the sky in the third entry of Looking Glass' *Flight Unlimited* series.


CAUTION
02
NEXT
SAKURA
SCORE
002641
NOR

Super Puzzle Fighter II Turbo

FIGHT FOREVER

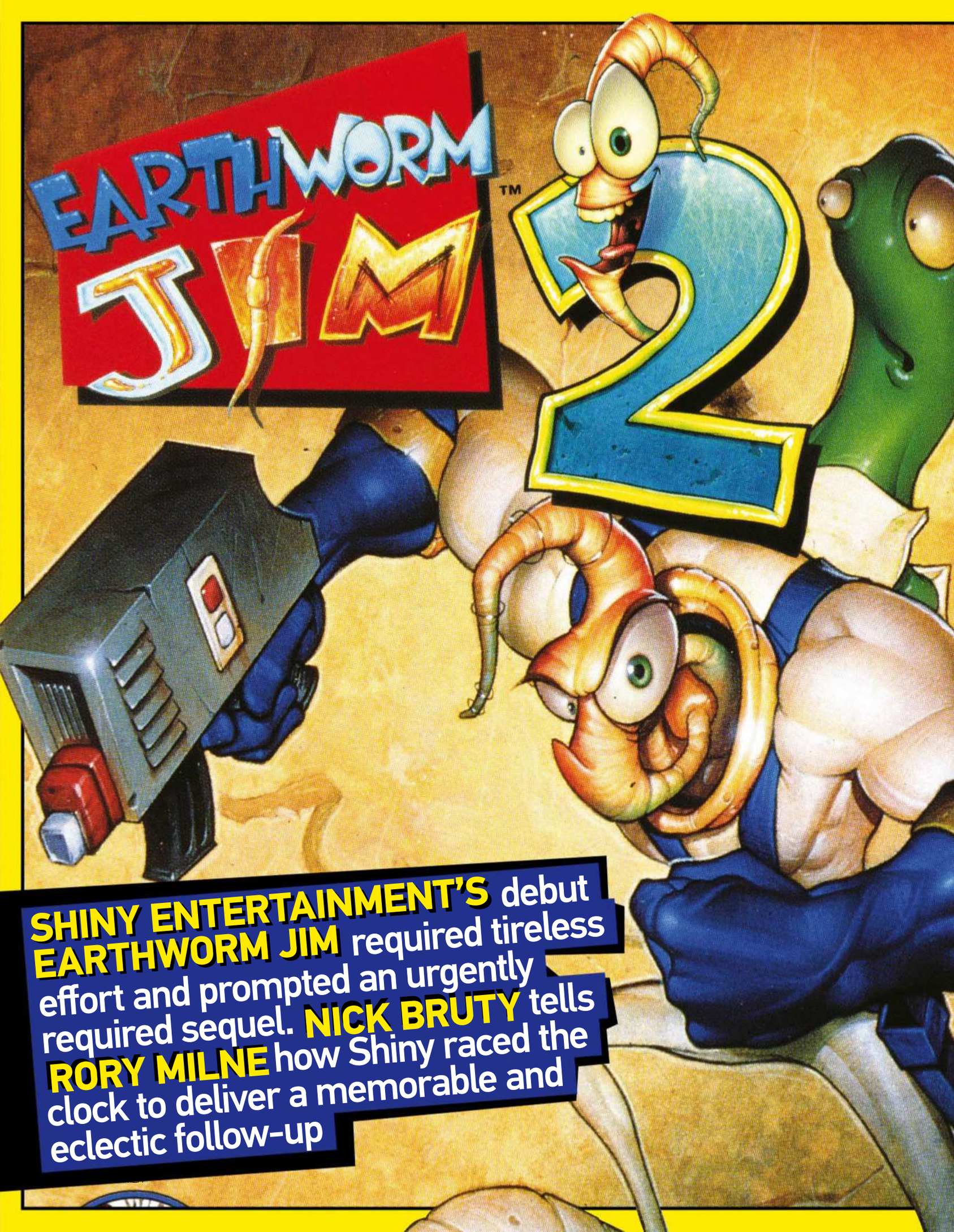
RETROREVIVAL

» PLAYSTATION » CAPCOM » 1996

When I was younger, I used to read about people becoming so addicted to *Tetris* that they'd see falling blocks when they closed their eyes, and even dream about the game. I didn't own a copy of *Tetris* until 2012, so of course I thought it was a load of rubbish. Later, I'd find out that I was very wrong, courtesy of my first true brush with videogame addiction.

I'd always enjoyed *Super Puzzle Fighter II Turbo*, but never really had anyone to play it against – most of the people I knew weren't interested in any 2D games, let alone puzzle games. However, one particular friend totally got it, as I discovered when my friend James stayed over one night. We're both pretty competitive guys who were often evenly matched in games we played, whether it was *Magic: The Gathering*, *Street Fighter* or *Micro Machines*. *Puzzle Fighter* was no exception, and it's the kind of game that gets its hooks into you, so we quickly lost count of how many matches and rematches were played. We played until about 3:00am, and then tried to go to sleep.

An hour later, I can't get to sleep and I definitely can't get the falling blocks out of my head. So I thought I'd chance it. "You asleep?" "No," came the reply. "*Puzzle Fighter*?" "Yeah." Immediately, the PlayStation is switched back on and we returned to Dan-versus-Dan matches. Needless to say, neither of us got a single moment of sleep that night.



SHINY ENTERTAINMENT'S debut **EARTHWORM JIM** required tireless effort and prompted an urgently required sequel. **NICK BRUTY** tells **RORY MILNE** how Shiny raced the clock to deliver a memorable and eclectic follow-up

By any measure, *Earthworm Jim* was a success. Not only did Shiny's 1994 launch title sell well, but it also accumulated a raft of glowing reviews, won the Sega Game Of The Year award and inspired a toy line, its own TV show and a comic book. The upfront cost of this success, however, had been a gruelling year spent sourcing IP, arranging a distribution deal and delivering a chart-topping game. Nick Bruty could have been forgiven for expecting a break following *Earthworm Jim*'s release, but as the former Shiny art director reflects, this was no time for rest. "It was very tough," Nick concedes. "We started the company when we started *Earthworm Jim*, so there was so much going on, and I remember being pretty wiped out at the end. Then Sega wanted us to do the Mega-CD version, so we jumped in and put another level together for that, and then we rolled straight into *Jim 2*. For me, it was one of the more difficult developments. I might have been a little bit more burned out than the others – I'd handled a lot of the original's levels – but it really was just striking while the iron was hot."

As it had with *Earthworm Jim*, Shiny approached the design of its sequel as a blank canvas waiting to be filled with its artist's weird and wonderful ideas. "It was always very organic," Nick muses. "When Doug TenNapel first brought those characters to us there wasn't really a world framing them, and they were all so diverse. That meant we could really just do anything with Jim. We would brainstorm; we would get together and discuss stuff, but a lot of the levels really came down to the background artists: myself, Steve Crow and Mark Lorenzen. And we pretty much just designed out the levels that we wanted."

While Shiny's art team considered level concepts, its animators began producing character artwork using methods that they had developed while working at Virgin Games. "On the animation side, it was a technique that was developed back in *Aladdin* using cell animation, which we would scan in," Nick says. "We didn't have Disney artists, but we did have awesome animators – Mike Dietz, Ed Schofield and of course Doug TenNapel. They were illustrators, could draw nice characters and would do cartoon work, and so had the skills to pull off those animations."

However, Nick had reservations over one particular character animation, although the Art Director's objection was less to do with aesthetics and more to do with Jim being given a mucus companion to swing from and use as a ▶

» [Mega Drive] It's all guns blazing as Jim begins his mission by exchanging fire with an octopus.

IN THE KNOW

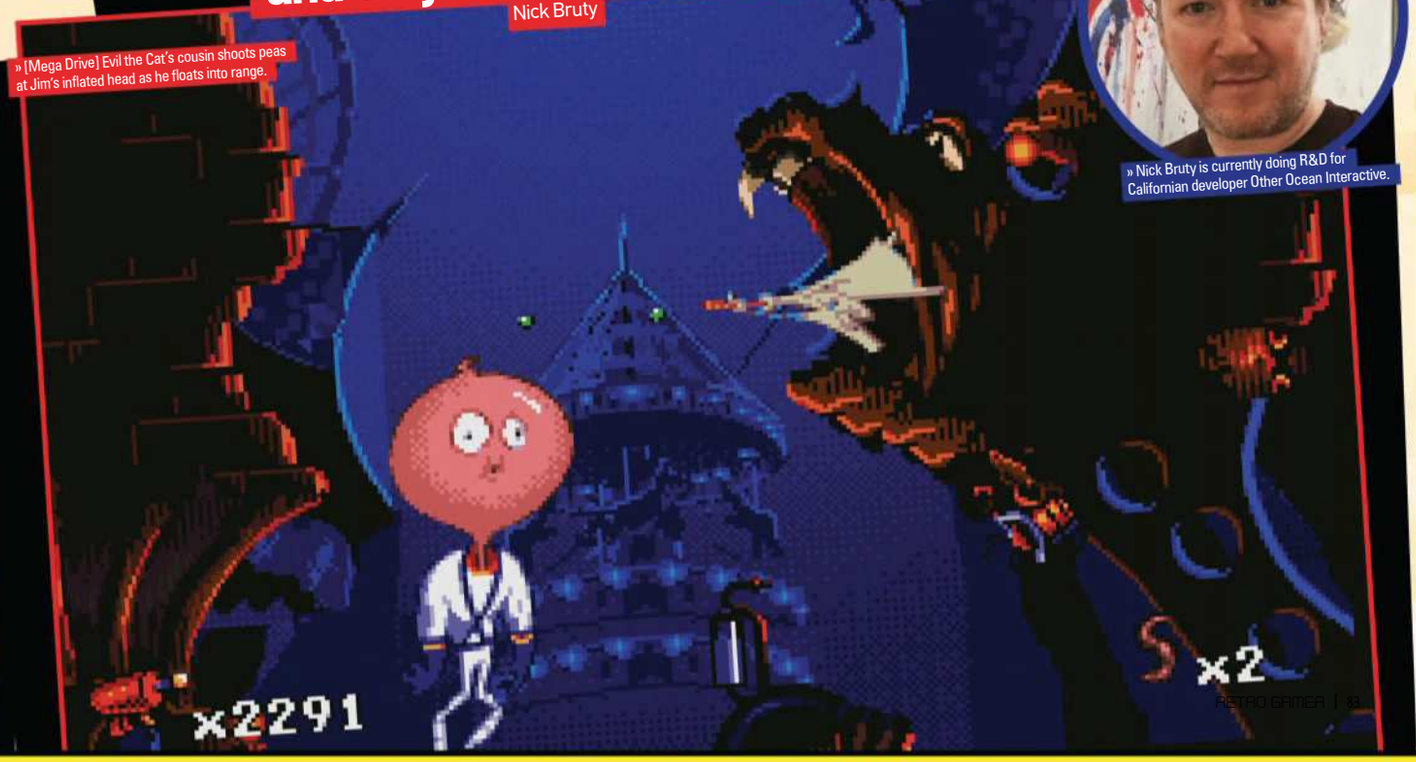
- **PUBLISHER:** Playmates
- **DEVELOPER:** Shiny Entertainment
- **RELEASED:** 1995
- **PLATFORM:** Mega Drive, Various
- **PLATFORM:** Platformer

EARTHWORM JIM 2 101

Where the original *Earthworm Jim* was a straight run-and-gun with non-platforming interludes, this second instalment peppers a series of eclectic genre-hopping stages with occasional running and gunning. *Earthworm Jim 2*'s bizarre highlights include preventing cows from being abducted by aliens and escaping from a planet of meat.

"When Doug TenNapel first brought the characters to us there wasn't really a world framing them, and they were all so diverse"

Nick Bruty



» [Mega Drive] Evil the Cat's cousin shoots peas at Jim's inflated head as he floats into range.

» Nick Bruty is currently doing R&D for Californian developer Other Ocean Interactive.

DEVELOPER HIGHLIGHTS

EARTHWORM JIM (PICTURED)
SYSTEM: VARIOUS
YEAR: 1994

MDK
SYSTEM: VARIOUS
YEAR: 1997

WILD 9
SYSTEM: PLAYSTATION
YEAR: 1998

» [Mega Drive] Mucus companion Snott provides Jim with a gentle descent onto a planet of meat.

» [Mega Drive] The steaks couldn't be higher as Jim takes on beefy boss Flamin' Yawn!

▶ parachute. "That was a sore point for me," Nick admits, "because I didn't like Snott. It was really just more of a visual thing than anything else, but I just didn't like the character; I thought the concept was a little too easy."

Much more to Nick's liking was the weapons designed for Shiny's sequel, which ranged from the destructive Barn Blaster to the useless Bubble Gun. "They were never really about gameplay more than they were just about being ridiculous!" Nick points out. "Most of the time, you were stuck with your main core weapon. It was more about fun; we didn't really design a lot of stuff to work against those extra-ridiculous weapons."

As well as weapon design, there was also the not-insubstantial task of realising the level concepts dreamt up for the follow-up, including a technically impressive stage devised by Mark Lorenzen that required Jim to blast through walls of dirt. "Mark had worked on *Vectorman* which had a lot of cool tech features, so he knew a lot of cool effects," Nick remembers. "But that level kept breaking. It was probably the thing that was doing the most different things within the engine that we had done at that point, and so it would be working one minute, and then it would turn into a mess the next. I think he probably had a few sleepless nights wondering if it was ever going to work!"

> **"The decisions were just made by us – for good and bad – and the difficulty curve was a bit all over the place"**
> Nick Bruty

Equally challenging to produce were Steve Crow's puppy-bouncing bonus levels, which Nick recalls having to be 2D rather than into-the-screen like the original's interstitial stages had been. "For that mechanic, it needed to be 2D side-on. We didn't want to do a similar thing to Andy Asteroids, because it just wore thin. So we were just looking for a different mechanic, and there was a fireman game we had fun with, so we were like: 'Let's do our own version!'"

Shiny also depicted its own surreal take on the US game show in an additional bonus stage set on an intestinal planet, although Nick firmly refutes the suggestion that this took any inspiration from his own TV viewing habits. "That actually came from Doug – I didn't even watch any of that stuff! So he pushed that in, and we loved the whole thing. If I remember, all the questions were just nonsense, and the answers A, B and C were just never right! And so it was a way to make more inspired lunacy in there."

Further lunacy for *Earthworm Jim 2* followed as Nick tapped into memories of trips to the arcade for a level where he stuck Jim on his pocket rocket and charged him with guiding a bomb through an isometric shootout. "Well I always loved *Zaxxon*," Nick recollects. "It was a bit hard for me, but I always had an affinity for isometric games from the Spectrum days. It was pushing the engine, because it wasn't really designed to do that. But, ultimately, it was basically just scrolling because Jim wasn't really interacting with the ground plane, so that made the whole thing a lot easier."

Far from easy, though, was a stage created by Steve Crow, where Jim would stick a thumb in his mouth and puff to expand his head in order to float upwards into a mess of worm-head-bursting obstacles and opponents. "I can't actually remember where that idea came from," Nick ponders. "Sometimes they would come from the animators. You know, they would want to see a certain visual and they would find a way to put it in. I'm not sure which led the way there,

CONVERSION CAPERS

A rundown of the other versions of Earthworm Jim 2

SNES

■ Although identical to the original in terms of gameplay, the SNES *Earthworm Jim 2* has subtly different backgrounds, such as level one being set against a violet-hued dusk rather than a orange sunset. Also, certain SNES *Earthworm Jim 2* stages involve hardware-driven effects that weren't attempted on Sega's 16-bit console.

PC

■ Rather than being released as a standalone product, *Earthworm Jim 2* came out for PCs alongside its predecessor in a package called *The Whole Can 'O Worms*. This version impresses with a CD-quality soundtrack and disappoints by not including the dirt-blasting second level, Lorenzen's Soil.

SATURN

■ If Shiny's *Jim* team hadn't split up and swapped sprites for polygons and plasticine, they likely would have made *Earthworm Jim 3* for the Saturn rather than porting *Earthworm Jim 2*. Instead, a team called Screaming Pink created 3D-backgrounds, a rendered end screen and CD audio for a version that is otherwise the same as the original.

PLAYSTATION

■ The PlayStation *Earthworm Jim 2* was also developed by Screaming Pink and features the same CD soundtrack as the DOS version. The only real differences between the Sony and Sega versions are that the PlayStation version lacks a post-credits splash screen and does without parallax scrolling on its opening stage.

GAME BOY ADVANCE

■ The GBA *Earthworm Jim 2* could have been as good as the SNES version that it's based on, but sadly that's not the case. Although its levels look the part, they run at a frustratingly slow pace, Jim himself has far fewer frames of animation and the game's overly compressed music and sound effects are painful to listen to.

» [Mega Drive] In order to reach an isolated ledge Jim uses his sidekick Snott as a makeshift swing.

but Mike Dietz was a big fan of Tex Avery and that sort of stylised going from one big pose to another."

On the background to a similarly bizarre level, Nick cites a real-life bureaucratic nightmare as the inspiration for Shiny's *Earthworm Jim* sequel, including killer filing cabinets and mountains of paperwork. "The really grey dystopian level – ISO 9000. That name was some sort of corporate process. When we were at Virgin Games, some elder management came in and tried to force us to do it. It was just terrible, because these guys had no idea about games. It didn't work at all, and when we left Virgin it was great to escape that, but it left a memory."

Yet another of the eclectic stages produced for Jim's second outing involved carrying cows, while a congratulation screen shown after beating levels featured two more and an epilogue following completion of the game contained a further three. On this obsession with cows, Nick reasons that you had to be there. "It was only outside of Shiny that it looked kind of weird. I think it just represented the spirit that we were approaching making those games. If you took all the energy of *Earthworm Jim* – all the madness and craziness – and made it into the shape of animal, then a cow would be that animal. It just seemed to resonate, and we kept going back to it, and the more of the game we made the more it made sense."

But as work on Shiny's sequel came to climax, Nick remembers there not being much playtesting of the game, either by Shiny or by the firm's distributor Playmates Interactive. "There was no oversight from Playmates, really. They didn't really know anything; they just trusted us because we were the experienced game makers. So the decisions were just made by us – for good and bad – and the difficulty curve was a bit all over the place."

Despite its inconsistent challenge, the reviews received by Shiny's *Earthworm Jim 2* on its release were every bit as good as its predecessor, although by this point Nick was already dreaming of his next project. "I wasn't really thinking about it in critical terms so much because I was so ready to move forward. I wasn't having a great time, and I kind of put that chapter behind me. I would have for sure checked reviews, but my mind was definitely elsewhere."

Adding to Nick's distraction was David Perry's sale of Shiny to Interplay Entertainment, which partially explains why the next instalment of *Earthworm Jim* was outsourced. "There was so much other stuff going on that we were distracted from, but I think probably everyone was a bit tired of Jim. Not tired of the character, but just needing a break from him. It sounds weird to me when I think back that we didn't make a *Jim 3*, that we left it to Interplay and some third-party team, but I guess we didn't feel really strongly about it at the time."

Casting a critical eye over *Earthworm Jim 2* now, Nick can't help but reimagine the inventive and eclectic platformer, but the seasoned designer is ultimately philosophical. "It has a much more bizarre aesthetic than the first game, but I think that's okay. There are things I would change; I would have liked to have improved the mechanics of the first game rather than just coming up with more diverse levels. As an experience developing a game it was a tougher one, but I think if you have a chance to have anything that's successful you should always be appreciative." ✱

Many thanks to Nick Bruty for sharing his memories.

» [Mega Drive] An obstructive cog gets vaporised in a last-level race against the evil Psy-Crow.

WEIRD AND WONDERFUL

The cheerful insanity of Earthworm Jim 2

PIG CHUTE

■ More than just an amusing diversion, the Pig Chute lets Jim launch a porcine pal headfirst into Bob The Killer Goldfish's bowl, which allows Jim to cross Bob's pond instead of getting beaten up by his muscle-bound feline minion Number Four.

GAME SHOW

■ A truly surreal interlude where Jim is tested with multiple-choice questions. However, the likely answer is always wrong and the alternative responses make no sense. So, essentially, it's a strange game of chance where points make power-ups.

INFLATABLE HEAD

■ Yep – Jim inflates and deflates his head through an entire level! His bulbous noggin allows him to float upwards through an obstacle course, but Flagitious The Cat's attacks require the heroic earthworm to briefly deflate and maintain altitude.

DUNKING COWS

■ Not ordinary cows, obviously, that would be silly. Ahem. No, Jim has to dunk cows with lit fuses before they explode. And where to dunk them? Well in a bath of milk, of course. And they say *Earthworm Jim 2* doesn't make sense – udder nonsense!

TINY ELVIS

■ When you leave certain playable characters alone an 'idle' animation is triggered, but the idling Jim performs in his second outing is inspired lunacy. When left to his own devices, Jim produces a teensy Elvis Presley who rocks out on his palm.

Castle of Illusion

starring

MICKEY MOUSE

Instant Expert

While this classic platformer also appears on the Mega Drive, they are completely different.

This is the first game in the *Illusion* series. Its success meant several sequels were made.

Castle Of Illusion was actually remade in 2013 by Sega Studios Australia. It's mainly based on the Mega Drive version, but we won't hold that against it.

If you're hoping to play as Minnie Mouse prepare to be disappointed. She's only available to rescue and isn't an unlockable character.

The developer, AM7 has created all sorts of games for Sega, including *Skies Of Arcadia*, *Sega Marine Fishing* and *Sega GT 2002*.

If you want a challenge, make sure you play the Master System version of *Castle Of Illusion*, as the Mega Drive outing is far too easy.

The designer of *Castle Of Illusion* is Emiko Yamamoto. She's worked on a large number of Disney games, including *World Of Illusion*, *Kingdom Hearts* and *Magical Tetris Challenge*. She also oversaw the *Castle Of Illusion* remake when it was being made.

Mickey Mouse is able to throw and carry objects in the Master System version of the game.

Mizrabel only has one form in the Mega Drive version – until you defeat her, that is.

When Mickey Mouse brought his star power to Sega's platforms, the Master System wasn't left out – and arguably, got the best game of the lot. Venture into the castle with Nick Thorpe

If you're Mickey Mouse, life must seem pretty good. Vera City is the nicest world Disney can draw, you're famous and beloved the world over, and Minnie is head over heels in love with you. Mickey has the peaceful happiness that we all want in our lives. The only problem is that peaceful happiness is much better at the end of the game than the beginning, so the jealous witch Mizrabel turns up to kidnap Minnie so she can steal her beauty. As you'd expect Mickey is miffed about the scenario, and he gives chase, reaching the *Castle Of Illusion* where an old man lets him know that he'll need to collect seven coloured gems to build a rainbow bridge to Mizrabel. Of course, he's got to get through a series of themed illusions to do it, setting the stage for the game – a classic rescue plot, befitting a classic cartoon character.

While the plot of *Castle Of Illusion* relies on old standards, the developers were actually relatively inexperienced. Designer Emiko Yamamoto of Disney was working on her very first videogame, while key Sega designer Yoshio Yoshida was fresh off his first project at Sega, *Alex Kidd In Shinobi World*. Yamamoto and Yoshida were serving as game designer and assistant game designer respectively on the Mega Drive version of *Castle Of Illusion*, developed alongside the Master System game, and basic concepts are shared between the two games. Both are platform games with the same plot, in which Mickey can attack by throwing objects and butt-bouncing off of enemies. The music, composed by Kamiya Studio, is also shared between the two versions.

The rest of the staff was different by necessity, and the Master System team was hardly devoid of talent – despite the status of the Mega Drive in Sega's plans at the time, the Disney project required the correct approach on every platform. Developers included *Phantasy Star* artist Takako Kawaguchi and *Michael Jackson's Moonwalker* planner Tomozou Endo, as well as a host of promising new developers. The result was a completely different interpretation of the same initial concepts. Stages, such as Toy Town and The Library, share conceptual commonalities with their Mega Drive counterparts, but every single aspect of the execution from graphic design to level layout was built from scratch.

Whereas the castle itself was merely a storytelling tool on the Mega Drive, on the Master System it acts as a menu screen. *Castle Of Illusion* offers a semi-linear experience, with the player given the choice to tackle the three initial stages in any order, and the same for two further stages once these have been completed. Once you're actually in those stages, further differences are revealed – primarily, on the Master System Mickey is capable of carrying and throwing only a single item at a time in much the same way as *Super Mario Bros. 2*, which means he's ▶

Pixel Perfect

They might look cute but they can still hurt you!

Castle of Illusion starring MICKEY MOUSE

got to be more direct in confronting enemies. As each object is solid, stages also take on minor puzzle elements – removing blocks in the correct order can often be key, lest the player be trapped in their current location.

At the time of *Castle Of Illusion*'s development, the Master System was being repositioned as a budget alternative to the Mega Drive, with a particular focus on catching younger children. With that being the case, you'd expect the 8-bit version to be the easier of the two to beat – but the exact opposite is true. The major criticism of the Mega Drive game was that it was beautiful but a little bit too easy, but on the Master System *Castle Of Illusion* is a tricky little game to take down. While each enemy will fall to just a single hit, their attack patterns make them more dangerous than the average platform baddie – clowns in Toy Town can call down a rain of juggling balls, bugs curl up and hurtle downhill at Mickey, and some enemies spawn further threats for you to deal with.

The bosses are all original, too, and some can take a little bit of figuring out. All too often platform bosses are just tough enemies that require a few extra hits, but *Castle Of Illusion*'s biggest enemies provide carefully considered encounters in which defined strategies rule the day over just attacking

» This clown makes it rain juggling balls, and is a bit of a pain to deal with.

mindlessly. We'd go as far as to say that some of them best their 16-bit counterparts – after all, Mickey doesn't go clock-slaying on the Mega Drive.

Of course, the first half of the Mega Drive's 'beautiful but easy' criticism isn't a criticism at all. *Castle Of Illusion* set new graphical standards on the Master System, with highly detailed backdrops and an enormous variety of enemies, all of which are well animated. These provide alternative interpretations of the themes found in the Mega Drive game – where you might find towers of cakes representing sweetness in the 16-bit game, the Master System game provides chocolate, biscuit and peanuts. The Library in the Mega Drive game is a musty, old-looking place, but on the Master System it's a modern workspace filled with all kinds of study equipment. But the real star of the show is Mickey Mouse himself, and his Master System iteration is a masterclass in 8-bit sprite design. He's instantly recognisable and animates just like you'd expect from his cartoons – he doesn't have to blink as he runs nor wobble on the edges of platforms, but the fact that he does just draws you in.

Castle Of Illusion was a great case of the right people putting together the right game for the right time. It's easy to look back with cynicism at a platformer starring a very popular character, given the direction videogames would take over the course of the early Nineties – however, it was high quality games like *Castle Of Illusion* that drove the demand for such games. Plus, when compared to the many imitators that followed, *Castle Of Illusion* holds up extremely well – few of them offer the excellent progression structure found in Mickey's 8-bit adventure, let alone the design.

However, some Master System games do offer similar qualities to *Castle Of Illusion*. That's no surprise, as Sega recognised the quality of the game and kept the team behind the game largely intact for further platform projects on the 8-bit console. The Mickey Mouse sequel *Legend Of Illusion* is one of these and is a similarly excellent game, and the team also be worked on other excellent games such as *Asterix* – even the *Sonic The Hedgehog* games mention the *Castle Of Illusion* staff in their special thanks sections. With that kind of influence, it's pretty clear to see that *Castle Of Illusion* wasn't just a great individual success, it was a turning point which raised the bar for Master System games for years to come.

Playing tips

Remember these handy hints and you'll have Minnie home in time for dinner

»Going further

Always go that little bit further. It can be tempting to leave a screen as soon as you see the exit, but you'll miss goodies if you do.

»Master scoring

Scoring means something in this game as you'll earn an extra life for every 10,000 points. One large coin will earn you 2,000!

»Avoid the butterfly

The Forest's deadliest denizen is the butterfly. Be careful around pits, being hit mid-jump could cause you to lose a life.

»Balloon bouncing

The genie balloons are tricky. The balloons stop when you land on them, you can create a height difference and cross the gap.

»Just desserts

If you fall into the milk in the Dessert Factory, you'll be able to swim. But if you are holding an item, you'll sink and die.

»Look carefully

When you're tackling the Library and Mechanical stages, don't forget that there's a second rainbow gem hidden in each.

»Two sugars please!

This mug in the Library looks like convenient scenery, but if you can drop into it you'll reach a nifty little swimming section.

»Musical Mickey

Take it slow when you reach the piano in the Library, as the bad notes will reveal themselves when you get close enough.

»Clocked it

The clocks in the Mechanical stage release annoying birds. But if you can take out the clock itself, all the birds will disappear too.

»Ghostbuster

When you see a formation of three ascending ghosts like this, you'll need to butt-bounce them in sequence to cross a wide gap.

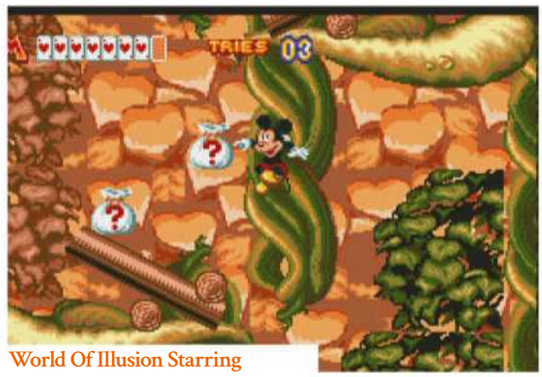
LOST IN ILLUSION

Here are some more illusory adventures...

Castle Of Illusion Starring Mickey Mouse

Platform: Mega Drive **Year:** 1990

The Mega Drive version of *Castle Of Illusion* is something of a sister product to the 8-bit game, featuring an identical plot and similar themes, but drastically different gameplay. It's a little easier than the Master System game, but it's still gorgeous to look at and is easily the best of the pre-*Sonic* platformers on the console. Even if you've played the Master System game to death, you still need to play the 16-bit version.



World Of Illusion Starring Mickey Mouse & Donald Duck

Platform: Mega Drive **Year:** 1992

The Mega Drive *Illusion* sequel introduced Donald Duck to the series, as he collaborates on a magic show with Mickey only to have everything go a bit wrong when they accidentally stumble into a world inside an evil magician's magical box. Two player co-operative play was the biggest addition, with each player controlling Mickey or Donald – the game was built around it.

Land Of Illusion Starring Mickey Mouse

Platform: Master System / Game Gear **Year:** 1993

The 8-bit sequel to *Castle Of Illusion* retains many of the same mechanics as its predecessor, while pushing the Master System to its graphical limits and including extra mechanics. More Disney cast members are included in this game, with Goofy and Donald Duck making appearances. The Master System version of *Land Of Illusion* didn't appear in North America, but the Game Gear version was released worldwide.

Legend Of Illusion Starring Mickey Mouse

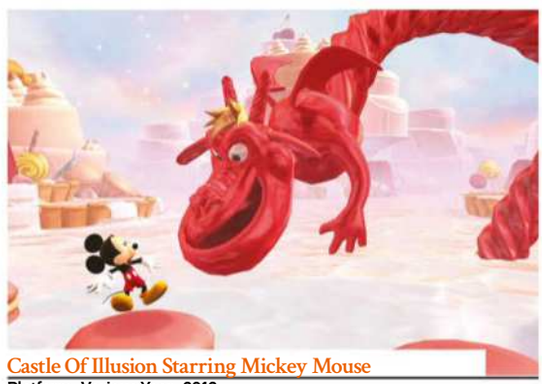
Platform: Master System / Game Gear **Year:** 1995

Legend Of Illusion places Mickey into an old-world tale as a laundry boy, tasked with retrieving the legendary water of life by King Pete. Developed by a different team to the other 8-bit Illusion games, *Legend Of Illusion* plays a little differently and is arguably too easy. The Master System version of *Legend Of Illusion* is exclusive to Brazil and arrived late in 1998, but the Game Gear version was given a worldwide release.

Epic Mickey: Power Of Illusion

Platform: 3DS Year: 2012

Developed as a spiritual sequel to *Castle Of Illusion*, this 3DS platformer isn't an official part of the series and wasn't developed by Sega. It uses many of the same story elements including the casting of Mizrabel as antagonist, while including boatloads of cameos from across the Disney universe and introducing Epic Mickey gameplay elements. The game was given a mixed reception by the press, citing excessive backtracking.



Castle Of Illusion Starring Mickey Mouse

Platform: Various Year: 2013

This downloadable title by Sega Studios Australia did a stunning job of bringing the *Castle Of Illusion* look into the modern HD era under the supervision of original designer Emiko Yamamoto, and provided a moderately well-received platformer that received some criticism for its short length and control issues, as well as unskippable cutscenes. It was be the studio's last game; closure was announced before the game's release.

The ending to Castle Of Illusion sees Mickey finally coming face to face with the evil Mizrabel. Initially she takes the form of a dragon, but after a while her true form is revealed. She might look old but she's still a tough and Mickey must use all his tricks to defeat her. Once he finally gets the better of the hag, Mickey is reunited with his beloved Minnie and they live happily ever after.

Castle of Illusion starring MICKEY MOUSE

Boss Rush

The highlight of *Castle Of Illusion* is arguably its excellent bosses. Each and every one of them will test all the skills that Mickey possesses and can prove to be incredibly tough if you don't know what you're doing. It's fortunate then that we *do* know what we're doing and we've put together this handy little guide so that you'll never become stuck again. Just remember what we've taught you.

The Barren Tree

This arboreal adversary really wants you to leave! Actually, it really is quite a nasty boss, considering that you're likely to face it before any of the others. The barren tree rapidly spins back and forth across the arena, and if you somehow manage to avoid this deadly attack, it will chuck leaves at you from each side of the stage.

How to beat it: A butt-bounce is almost always safe – Mickey can bounce off the spinning tree with no problem at all, as only the leaves can hurt him here. To actually damage the tree, time your plummeting posterior to strike when it's not spinning.

Difficulty rating:

Choco-Warrior

This guy has mastered the sweet science and really wants to knock your block off! The choco-warrior isn't speedy, but each individual chunk will damage you if it catches you while moving. Once it's fully formed it'll give the wall a hefty punch, dislodging further chunks from the ceiling in an attempt to hit you. A regular block also falls for you to throw at him.

How to beat it: This guy actually has a limited range of movement, so once he's dropped a block for you, grab it and run to the side he's going to move to. When he's fully formed, hit him in the face with the block!

Difficulty rating:

Jack In The Box

Ah, the terrifying combination of clowns and sudden shocks just never gets old. This irritating creature doesn't just spring forth from its box – left to its own devices, it'll happily bounce around your screen while creating an endless drizzle of juggling balls. Needless to say, you want to avoid getting hit by any of these things at all costs.

How to beat it: Jump on it before it jumps on you! Mickey's butt-bounce saves the day again here, though be careful – the rebound may inadvertently propel you into a falling ball. Pick your moments carefully and this shouldn't prove much of a problem.

Difficulty rating:

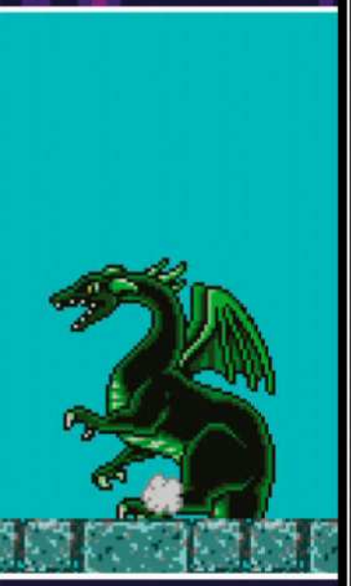
> "This dragon will thrash around for a bit before aiming a triplet of fireballs in your general direction"

Paperweight Champion

Hot off the presses and lurking in the library, this terrible tome likes to teleport about the screen, while flinging letters at you from inside itself. These letters, like most other objects generated by bosses, are deadly to the touch. However, they're also quite easy to avoid, making this one of the tamer boss fights you'll have to endure.

How to beat it: This one's an easy win – just butt-bounce off the letters and onto the book. Not all of the letters float low enough to reach easily, but so long as you have ample time you can afford to be choosy.

Difficulty rating:



Dragon

Here's part one of the final boss, and it's a doozy. This dragon will thrash around for a bit before aiming a triplet of fireballs in your general direction, over and over again. Butt bounces won't work here, so you're provided with an M-block in the interest of good sportsmanship.

How to beat it: Repeated application of an M-block to the head wins here. The tricky thing is retrieving it from under the dragon after your attack – we prefer to grab it, let the dragon aim downwards at us and then make a dash for the platform to begin the next assault run.

Difficulty rating:

Doomsday Clock

It's not too often that the clock strikes *you*, but this grandfather clock is has a real mean streak. A couple of rolling cogs patrol the floor, while the clock face floats overhead and occasionally swoops in for an attack. If you kill the cogs the clock face will just spawn more, so it really isn't worth it unless you're forced.

How to beat it: When the clock stops, get ready to jump in and attack. Don't get complacent about the face's attack pattern, as it has a nasty habit of throwing you off with a surprise attack from the other side after a while.

Difficulty rating:

Mizrabel

Old Mizzy floats around on her broomstick in a darkened room, hoping to catch you with two floating rocks which bounce around the room in a diagonal pattern. There's a lantern here for you to fight with, and as a nice bonus it'll temporarily smash the rocks as well as hurting Mizrabel. Good luck – this is the final showdown!

How to beat it: Conserve as much health as possible in the dragon fight, as you'll only receive a cake slice before the showdown with Mizrabel. Be mindful of where the rocks are at all times, and remember that walls aren't obstacles to them.

Difficulty rating:

Subscribe and save 20%*

Every issue, delivered straight to your door

Never miss an issue

13 issues a year, and you'll be sure to get every single one

Delivered to your home

Free delivery of every issue, direct to your doorstep

Get the biggest savings

Get your favourite magazine for less by ordering direct

What our readers are saying about us…

"The craft that goes into each issue of @RetroGamer_Mag, absolutely 10/10. First class…" @jaygavin via Twitter

"@RetroGamer_Mag Best magazine ever. Subscriber for 2 years now!" @dial999now via Twitter

"Very impressed with this months Retro Gamer (Official) magazine - some absolutely amazing articles in there . . . nice work guys." @AndyRCM via Twitter

retro GAMER | Subscription offer

Pick the subscription that's right for you

MOST FLEXIBLE

Subscribe and save 20%

✔ Automatic renewal – never miss an issue

✔ Pay by Direct Debit

Recurring payment of £26 every six months, saving 20% on the retail price

DIRECT Debit

Instruction to your Bank or Building Society to pay by Direct Debit

Originator's reference 7 6 8 1 9 5

Name of bank

Address of bank

Postcode

Account Name

Sort Code

Account no

Please pay Future Publishing Ltd Direct Debits from the account detailed in this instruction subject to the safeguards assured by the Direct Debit guarantee. I understand that this instruction may remain with Future Publishing Ltd and, if so, details will be passed on electronically to my Bank/Building Society. Banks & Building Societies may not accept Direct Debit instructions for some types of account

Signature

Date

GREAT VALUE

One year subscription

✔ Great offers, available world-wide

✔ One payment, by card or cheque

A simple one-off payment ensures you never miss an issue for one full year. That's 13 issues, direct to your doorstep

☐ **UK** £51.90 (saving 20% on the retail price)

☐ **Europe** €81.55 ☐ **USA** $103.20

☐ **Rest of the world** $103.20

Pay by card or cheque

Pay by Credit or Debit card

☐ VISA Visa ☐ Mastercard ☐ Amex

Card number

Expiry date

Pay by Cheque

I enclose a cheque for £

Made payable to *Future Publishing Ltd*

Signature

Date

Your information

Name

Address

Telephone number

Mobile number

Email address

Postcode

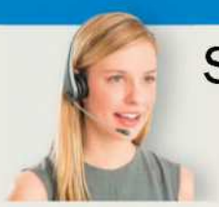
☐ Please tick if you want to receive any communications from Future and its group companies containing news, special offers and product information

Please post this form to

Retro Gamer Subscriptions, Future Publishing Ltd, 3 Queensbridge, The Lakes, NoRthampton, NN4 7BF

Order securely online

www.myfavouritemagazines.co.uk/RET/PS17



Speak to one of our friendly customer service team

Call 0844 848 8412

These offers will expire on
28 February 2018

Please quote code PS17

*Prices and savings are compared to buying full priced print issues. You will receive 13 issues in a year. You can write to us or call us to cancel your subscription within 14 days of purchase. Payment is non-refundable after the 14 day cancellation period unless exceptional circumstances apply. Your statutory rights are not affected. Prices correct at point of print and subject to change. Full details of the Direct Debit guarantee are available upon request. UK calls will cost the same as other standard fixed line numbers (starting 01 or 02) are included as part of any inclusive or free minutes allowances (if offered by your phone tariff). For full terms and conditions please visit: bit.ly/magtandc

Offer ends 28th February 2018.

TONY WILLIAMS

Having coded around a dozen games and contributed music to many more, Tony Williams (aka Tiny Williams) has enjoyed a long career in games. He grabs a coffee with Martyn Carroll and tries to remember it all

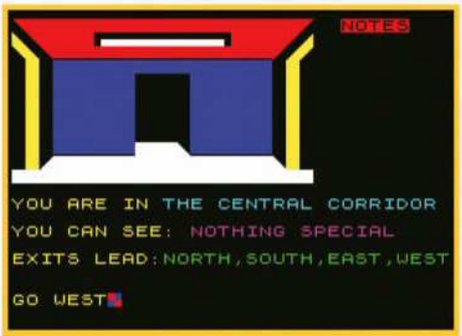
The first title on Tony's gaming CV is *Salvage*, a text adventure which he converted from the Commodore 64 to the Spectrum in 1985 for Manchester-based LiveWire Software. He would go on to work at two of the North West's top development houses, Icon Design and Software Creations, before specialising in videogame audio. Under the banner Sound Images, initially with friend Paul Tonge, Tony provided soundtracks for many big-name publishers including Ocean, Virgin Games, Mirrorsoft, Ubisoft and Psygnosis, across multiple computer and console formats. He was later involved in setting up Game-Play Studios in Warrington, and in 2002 he devised the popular puzzle game *Fruitfall*. Tony is often credited as Tiny Williams – read on to discover the story behind that, and much more.

Do you enjoy talking about the past?
I'm not against it. It's just something I don't do very much. I get quite a few messages on Facebook and LinkedIn from people saying, 'I really liked the music on such and such a game,' and sometimes I think, 'Did I actually do that!?' It's not that I don't want to talk about the past, it's that sometimes it's difficult to remember things. I'm in my mid-fifties now so life has changed.

Can you recall how you first got into gaming?
I do remember that. I bought a Spectrum with my birthday money. I got into it a bit later than most, I was in my late teens, probably 18. I was working as a van driver at the time and someone I knew at work passed me a tape which had loads of games on, and off I went. One of the first games I really got into was *Jetpac*.

So how did you move into programming? Did you study it formally?
I had no training, I just started from scratch. After the van driving job I started working at a computer game shop in Northwich, Cheshire. And when it was quiet I would sit in the back room with a programming book and a Spectrum, trying to write games. Then I saw an advert in the *Manchester Evening News*, looking for game developers. I thought I'd give it a go.

Did you have a game to show the team?
I had a sample game, with a guy running around jumping over things. I remember the main sprite was massive and I'd got it to move around the screen quite smoothly. They were quite impressed – 'they' being Icon Design, which was set up by the guys at A'N'F Software and MC Lothlorien. Icon Design was like their development arm. A'N'F and Lothlorien were there to publish the games, while at Icon Design there were 15 to 20 of us writing games. We were based in Rochdale, then about 18 months later we moved to Prestwich in Manchester.



» [ZX Spectrum] Tony's first gig in games was converting adventure game *Salvage* from the C64 to the Spectrum.

How was the work divvied up at Icon Design? Did you get to choose what you worked on?
At the time they were doing games for the ZX Spectrum, Amstrad CPC and Commodore 64. For each title they would pair up a Z80 programmer and a 6502 programmer and both would work on the lead Spectrum version together. Then when it was done the Z80 programmer would convert it to the Amstrad, and the 6502 guy would go off and convert it to the C64. It worked well, as you'd be working with different people and you'd share a lot of techniques.

Were you working to timeframes and deadlines?
There were deadlines, but it wasn't like now where you're expected to work late if you were running behind. But you see back then everyone was doing it because they cared. We developed games at work using

> At Icon Design we didn't have a musician, so I would go home in the evening and fiddle about and come up with a tune
>
> Tony Williams

SELECTED TIMELINE

GAMES

- **SALVAGE** [1985] ZX SPECTRUM
- **WIBSTARS** [1986] ZX SPECTRUM
- **COLONY** [1987] ZX SPECTRUM, CPC
- **AGENT ORANGE** [1987] ZX SPECTRUM, CPC
- **RESCUE** [1987] ZX SPECTRUM
- **SECTOR 90** [1987] ZX SPECTRUM, C64
- **MILK RACE** [1987] ATARI 8-BIT
- **XENON** [1988] VARIOUS
- **RAW RECRUIT** [1988] ZX SPECTRUM
- **STAR WARS DROIDS** [1988] C64
- **PETER PACK RAT** [1989] ZX SPECTRUM
- **SHINOBI** [1989] VARIOUS
- **OCTOPLEX** [1989] C64
- **KENDO WARRIOR** [1989] C64
- **PRO TENNIS TOUR** [1989] C64
- **CANYON WARRIOR** [1989] ZX SPECTRUM
- **CHUCKIE EGG** [1989] ATARI ST, PC
- **STORMLORD** [1989] PC
- **NEVER MIND** [1989] VARIOUS
- **PSYCHO HOPPER** [1990] AMSTRAD CPC
- **DESTINY MISSION** [1990] ZX SPECTRUM
- **NINJA WARRIORS** [1990] VARIOUS
- **NARC** [1990] VARIOUS
- **JUDGE DREDD** [1990] C64, ATARI ST
- **FUTURE BASKETBALL** [1990] AMIGA, ATARI ST
- **TEENAGE MUTANT HERO TURTLES** [1990] AMIGA, ATARI ST
- **PANG** [1990] ATARI ST
- **SMASH TV** [1991] VARIOUS
- **SHARKEY'S MOLL** [1991] VARIOUS
- **KILLING GAME SHOW** [1991] MEGA DRIVE
- **LEMMINGS** [1991] PC
- **OVERKILL** [1992] PC
- **BEAST II** [1992] ATARI ST, MEGA DRIVE
- **BENEATH A STEEL SKY** [1994] PC, AMIGA
- **SUPER OFF ROAD** [1994] MEGA DRIVE
- **DIRT RACER** [1995] SNES
- **BREAK POINT** [1996] PS1
- **POCKET SOCCER** [2001] GAME BOY COLOR
- **FRUITFALL** [2002] PC
- **SUPER FRUITFALL** [2006] VARIOUS

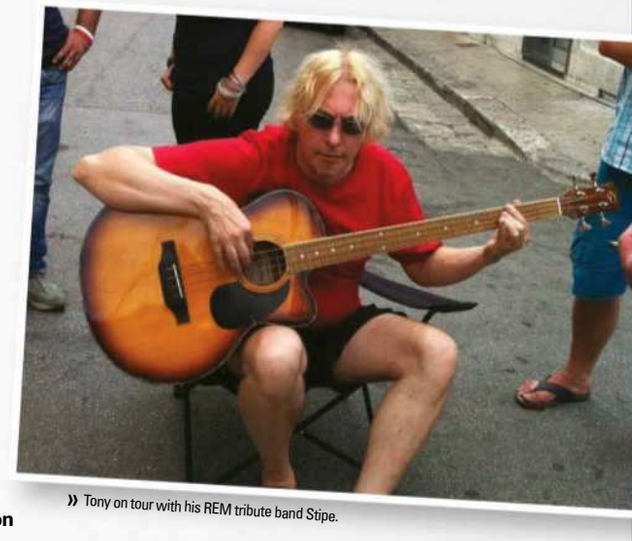
a Tatung Einstein, and we all bought one ourselves so we could continue to develop games at home at weekends.

You developed both full-price and budget games at Icon Design. Did you mind doing the budget stuff, or was there any snobbery about them at that point?
Not that I remember. Some people preferred doing certain types of games, like arcade or strategy, but I don't recall any snobbery about doing the budget titles. It was more a case of, 'This is what I'm doing and I'll do the best I can.'

One of the more high profile titles you worked on was the 8-bit versions of *Xenon*.
I produced the soundtrack for that and I also helped code the Spectrum version, although I wasn't credited. The Spectrum version was being worked on by a trainee named Jason [Cowling]. It was his first game and he did really well, but it was taking him quite a long time. He had level one pretty much finished, but there were three other levels still to do so I was roped in to finish it off. I think I spent three weeks on it. I recall working a whole weekend to get it finished for the deadline.

Tell us about your interest in music.
I got into music when I was about 13, when punk came along. That's what got me into playing an instrument. As for games, I starting contributing music right from the beginning really. At Icon Design we obviously didn't have a musician in those days, so I would go home in the evening and fiddle about and come up with a tune and say, 'Do you want to put this in your game?' It was just something to do. I didn't get paid any extra for it.

Eventually you moved almost exclusively into writing music for games. How did this come about?
I moved from Icon Design to Software Creations and I worked there for something like two years. Then Icon decided that they wanted me back, and they said, 'If you come back you can just do music,' and that was a bit of a carrot for me. When I left school I had a thing in my head that I wanted to earn a living from music, and that's what I ended up doing.



» Tony on tour with his REM tribute band Stipe.

Was it easier to earn a crust creating music? It must have been less hassle to coding?
Well it was certainly a quicker turnover in that there were often several projects a week rather than several months per project. I'd spend one or two days on a project and then I'd be straight onto something else.

Having started on the Spectrum, you must have been happy when Sinclair added an AY chip to the 128K machines?
Yes that was very good. But you still had to support the lower machine as well, so with the Spectrum it was a case of doing everything twice.

What about the SID chip? You didn't program the Commodore 64 but you did produce music for it?
That was a whole new experience for me. It was basically a synthesizer on a chip and I didn't know how to work with it initially. When I was at Icon Design, David Whittaker started working for another side company that was just doing music. He'd seen my Spectrum stuff and he said that I could use his C64 audio driver if he could use my Spectrum one. So we swapped, and I didn't have to write a driver for the C64, although I did tinker around with it.

For a project like *Shinobi* or *Ninja Warriors*, where you provided the soundtrack for multiple versions, how did the process work?
The system I used was based on MIDI. I composed stuff on an Atari ST using a keyboard and some

> When I left school I wanted to earn a living from music, and that's what I ended up doing
> Tony Williams

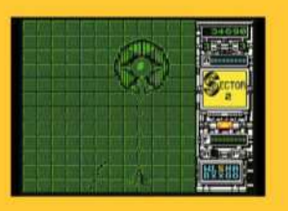
» [ZX Spectrum] At Icon Design Tony coded the Z80 versions of *Agent Orange* which were published by A'N'F Software.

FIVE TO PLAY

A selection of the games that Tony developed over the years

COLONY 1987

■ One of Tony's earliest titles was this isometric arcade adventure for the Spectrum and Amstrad CPC. Despite the budget price tag it's a little game in which you control a droid who has to defend a compound from irksome aliens. There's much more to it than simple blasting.



XENON 1988

■ The hit 16-bit shooter from the Bitmap Brothers translated extremely well to the Spectrum. As Tony reveals in the interview, he was brought on board to help get the game out the door. He was also responsible for the fantastic AY soundtrack featured on both the Speccy and CPC versions.

PETER PACK RAT 1989

■ A decent conversion of the Atari coin-op from 1985. Tony's Spectrum version is perhaps more memorable than the original as it was published on Telecomsoft's Silverbird label, so you got a few hours of platforming fun for just a couple of quid.

POCKET SOCCER 2001

■ Handheld football games need to epitomise pick-up-and-play, and this brilliant kick-around for the Game Boy Color does just that. It also includes a link-up option for two-player games. Tony developed this alongside some fellow industry veterans at Game-Play including Mike Follin and Simon Butler.

FRUITFALL 2002

■ Originally developed with the Game Boy Advance in mind, Tony first issued this frenetic fruit-matching puzzle game on PC as shareware. It was later picked up and released on mobile phone, and later still arrived on various handheld and home console formats (as *Super Fruitfall*).

expensive studio software. Then I would take the data and compress it down and convert it so that I could use it in my drivers. The more you do these things, the more that you start to see patterns and you improve the process. I discovered that I could do the music automatically for all versions up to a point, and then tweak it manually for each one. For conversions I'd often play the music by ear on a keyboard. With *Ninja Warriors,* I was actually given a musical score, so I just played it into my system and away I went.

That's impressive.
Well, I think that's where my advantage was at that point. I could compose music, or transcribe it, and I had the coding skills to make it happen on the various machines as well.

Some of our readers will remember 'Sound Images' being credited on their games. How did that venture come about?
I was back at Icon Design as a full-time musician and the company was struggling. I remember getting paid and wondering if the cheque would bounce or not. Those were the days! I became good friends with a guy there named Paul Tonge and when Icon Design eventually made us redundant, in 1989, the pair of us decided to set up Sound Images.

» [Atari ST] This *Pang* conversion from Tony sported bouncy tunes.

And that took off?
This was the era when we were doing more than one game soundtrack a week each. We'd get the trade papers and there'd be the top ten chart and we'd be like, 'We did that, we did that.' Half of them were games we'd worked on! That lasted for about a year or so. Those were good times.

The North West of England seemed like the hub of UK games development in the Eighties and Nineties. Did it feel like that at the time? Did you socialise with other developers out of work?
It was a kind of small industry back then. When we were at Icon Design there was another company in Manchester, Binary Design, and I ended up doing some freelance work for them. We all knew each other and we all competed in some ways. We all wanted to do the best games and use the best techniques, but it was all friendly. People swapped between the companies. And, yes, we all socialised.

As a freelancer how were you paid for soundtracks? Was it a flat rate?
It was normally a flat rate. There were some occasions where I got a smaller flat rate and then a royalty. But the issue with that is that you had to have 100 per cent trust in the people that they would pay the correct royalties in the future. That didn't always happen.

When working remotely, did you have to mail over your compositions?
That's right. We'd get a phone call, "Can we have this by Wednesday," so we'd work on it Monday and Tuesday and make sure we got it in the last post on Tuesday evening. Later we got bulletin boards and CompuServe so it got a bit easier.

Moving forward, did the demand for chip tunes drop with the arrival of CD consoles?
That's where it changed for me. There was a long period where I never had to go out and look for work. I knew people and I'd get phone calls: 'Can you do this?' That was non-stop, and a lot of the time I'd have to say that I

» [Atari ST] *The Ninja Warriors* conversion was another large audio project for Tony.

was too busy and I couldn't do it. But there came a point when people could do audio with no coding knowledge. I remember talking to someone at Psygnosis and they said, "Give me a quote for this, you're competing with a guy who played bass for Pink Floyd on the last tour."

Did you get the job?
No, I didn't. I bet the Pink Floyd guy did. I lost my advantage, basically.

You remained in the industry though, so what happened next?
In 1995 Software Creations was commissioned to write some audio tools for Nintendo, for the Nintendo 64. And with my previous experience writing audio stuff I was asked to be involved. So I went off and did that, and it ended up taking around four years in total. I spent a long time behind the scenes, writing audio applications, although I recently found out that I did receive a credit on *Mario Artist: Paint Studio* for the N64! After a few years of that I was getting restless and I was looking to do something else. I got chatting to Richard Kay, who had sold Software Creations by this point, and he was looking to fund a new business. That's how Game-Play Studios started, and with Richard's contacts at Nintendo we got going with a game for the Game Boy Color.

JETTISONED OUT OF THE AIRLOCK

Tony reveals what happened to the unreleased Spectrum version of Jetman

Most developers have some unpublished titles in their portfolio and Tony is no exception. His canned titles include Music Manager, an audio utility for the Spectrum 128, and *Body Slam*, a conversion of the Sega wrestling coin-op for the Amstrad CPC. Later on, in 1991, he was involved in one of the most lamented 'lost' games of the era – the Spectrum version of *Solar Jetman*.

Jetman was an early mascot on the ZX Spectrum, appearing in the awesome twosome of *Jetpac* and *Lunar Jetman*. By the time this third game was considered in 1990, Ultimate had become Rare and so the target platform for *Solar Jetman* was the NES. However Software Creations was tasked with porting the console version to home computers. "I was working freelance," says Tony, "and because of my contacts with Software Creations I was asked if I wanted to develop the Spectrum version."

Tony took up the offer and the development progressed well for a few months, with the game destined for the 128K Spectrum. It received a positive preview in *Crash* magazine and the release date was given as April 1991. "I remember that it was looking good," reveals Tony. "I had all the mechanics up and running, and the opening level looked great. I just needed to add the other levels, when suddenly the plug was pulled." All versions were jettisoned into space for no clear reason – although it is speculated that less-than-stellar sales of the NES game prompted the decision. "It was a shock when it was cancelled and I was never told why. Programmers are rarely told why such decisions are made. It was all amicable – I didn't lose out as I was paid for the work that I'd done, and I did lots more work for Software Creations after that."

The C64 version has since been recovered, but Tony reveals that nothing of the Spectrum version remains. The disappointment is compounded as John Buckley, the man behind the C64 game, remembers playing a demo of Tony's Spectrum version and says it would have been "a classic".

» [PC] The Revolution point-and-click classic *Beneath A Steel Sky* is another top title in Tony's back catalogue.

» [Amstrad CPC] Tony coded the CPC version of the Mastertronic budget oddity *Psycho Hopper*.

That would have been *Pocket Soccer*, which came out in 2001?
Yes, *Pocket Soccer*. I think it's a very underrated game. It's really easy to play, but like any game, to be good at it takes quite a bit of skill.

That sounds ideal, creating a game for Nintendo to publish?
Yeah, but I think Nintendo just lost interest for some reason. Just before we were about to release it, Nintendo told us that there was interest from its South American arm and asked if we could put a Portuguese language option in it. We were thinking, "Fantastic, we're going to be selling in Brazil!" But in the end we didn't get anything over the minimum royalties so we assumed that it didn't sell any quantity at all. Whether it was marketing, or timing, I don't know.

Did you have any other titles in the pipeline?
The Game Boy Advance came along and we had two games on the go for that. One was a sequel to *David Beckham Soccer* which was commissioned by Rage, and we were funding a game of our own from that contract. Then Rage realised that the original *David Beckham Soccer* game that was already out there was pants, and no one was buying it. So Rage pulled the second one, and because that was our only source of income, I went and spoke to our accountant and he told me that we were basically insolvent. There was no money coming in. To be fair, Rage paid us up to that date so we didn't owe anyone, but the next month we would have had nothing to pay the wages.

Brand Beckham, eh? So what became of the other GBA game?
It was called *Evo* and it was a space game in which you evolved your craft, hence the title. It was getting some good press, actually. For the launch of *Pocket Soccer* we invited some press up and we gave them a peek of *Evo* and they loved it. We then got calls from Namco and various big publishers asking about *Evo*, but we had no money to develop it. And when the Rage game was pulled, no one could act quick enough to save it.

That must have been devastating at the time?
I'd done freelance on my own for ten years maybe and I thought that the next step was a business, but in the end it was too much. It was very sudden and after Game-Play Studios closed down I just spent two months doing nothing. This was supposed to be the dream, to build the company up, sell it, and retire. What was I going to do now? What I decided to do was create some IP of my own and license it. I wanted to develop a puzzle game for the GBA, but all I had at home was a PC so I developed it on that instead. The game was called *Fruitfall*.

And that achieved its aim didn't it, as *Fruitfall* was picked up for release on mobile phones and eventually made its way over to the Wii, DS and PSP via System 3?
Yes it did, but in the end it took seven or eight years to make a decent amount of money out of it, where I was planning to do one game a year and live off the proceeds. So it didn't work out that well in the end. But at the time I was playing in an REM tribute band so I did have earnings.

> There came a point when people could do audio with no coding knowledge… I lost my advantage
> Tony Williams

So it wasn't the end of the world as we know it?
Ha no. I'd spend three days a week coding and the rest of the week travelling around and playing bass guitar in the band. I loved it.

Can we ask you about some mysterious aliases you adopted in the past? Starting off with Front Room Team?
That would have been at Icon Design. We used to work in the front room in the offices. Simple as that. There was the Slidey Door Room Team, too. There were some good people behind the slidey door – John Buckley, who went on to work at Software Creations, and Steve Riding who was later at Psygnosis.

Howard Ino?
How would I know? Seriously! We just went through a phase of using silly names on our games.

And of course, the main one, Tiny Williams?
That's a long story, and it came from an incident involving a less-than-grammatically-correct programmer – who I won't name – being allocated to a children's spelling program. A group of us started joking about how he might be allocated a spellchecking program next, which we codenamed the Spilling Chucker, and imagined how it would get every word incorrect by one letter. We all used names which had been passed through the 'Spilling Chucker' – I think mine was originally Tiny Woolliams. Being six foot four or thereabouts, the Tiny part obviously amused the rest of the group, and it stuck as a nickname. It appeared on the credits for all the games I wrote from then on.

'Tiny' worked with some eminent people over the years. Tell us about fellow musician Tim Follin.
Tim is a genius, and he is also a good friend. I had a beer with him a few weeks ago, and his brother Mike as well. Mike is an Anglican vicar now and he doesn't do games anymore. He told me that the last bit of coding he did was on his church website. Both Tim and Mike were really good guys. Mike was a fantastic developer and he was with me at Game-Play and he worked on *Pocket Soccer*.

What about two other brothers you worked with? The Pickfords, John and Ste?
Again, very clever guys. They were at Binary Design. Ste said last year that he was going to do another Spectrum game.

Could you be convinced to go back to working on the Spectrum?
No. I'm too reliant on high-level coding and libraries. Time is very short nowadays. I don't get time to write music very much now, and I'd prefer to do that if I had the time.

You also worked with David Whittaker.
I chatted to him earlier this year on LinkedIn. Actually, David was one of the reasons we started Sound Images, because he was specialising in music and he was getting stacks of work and we saw that it could be done.

Ste Cork. He developed a lot of games with you.
He was another good friend. He's been over in the US at Raven Software for probably 20 years now. I went to his wedding. I was actually best man at his wedding.

Quite a few UK programmers moved over to America and seemed to do very well. Were you ever tempted to move over there?
It was on the cards. In the early Nineties David Whittaker went over to EA in San Francisco and told me that they were looking for people like me, but at the time my wife and I were thinking about maybe moving to Greece so it never happened. Ultimately, though, we stayed here. And David moved back after three or four years, I think. He was homesick.

Looking back, how would you sum up your career in games, as both a programmer and a musician?
To me, being a musician is being creative, but being a programmer is being logical. I've always had those two halves in my career and both were interesting and exciting at the time. In my twenties I wasn't doing it for financial reasons or to gain fame or anything like that. There was just this desire to write games and to write the best games. I got into gaming because I loved gaming. I did it because I loved doing it. And I met some very special people along the way.

REM-INISCING

Tony looks back at his time on the tribute band circuit

Besides creating videogame music, Tony also played in live bands, and between 2002 and 2012 he was a member of successful REM tribute band Stipe. In 2008 they even played on the BBC's *The One Show* – in front of Michael Stipe himself.

"That was a random thing," he says, revealing how it all began. "After Game-Play closed, when I wasn't doing anything, I was sat in a friend's house with Rick, who's the singer in the band, and we were playing guitars and just recording stuff for a laugh. He told me that he was having real trouble getting a bassist for his new line-up and I said, 'I'll give it a go.' I'd played guitar a lot but never bass, so I went out and bought a bass, turned up for some rehearsals, and it worked out. As Stipe we played all over the UK, and Ireland and around Europe, too. The band was like a gang and they were good times."

You could say that Tony took his Mick Mills impersonation seriously. "I grew my hair long and dyed it blonde – that's commitment for you!"

» [Amiga] Tony provided audio for *NARC* and a number of other games released by heavyweight Manchester publisher Ocean Software.

» [Mega Drive] Tony produced audio for a number of Mega Drive titles, including *Ivan 'Ironman' Stewart's Super Off Road*.

Yoshi's Island: Super Mario Advance 3

WORLD'S BEST BABYSITTING GIG

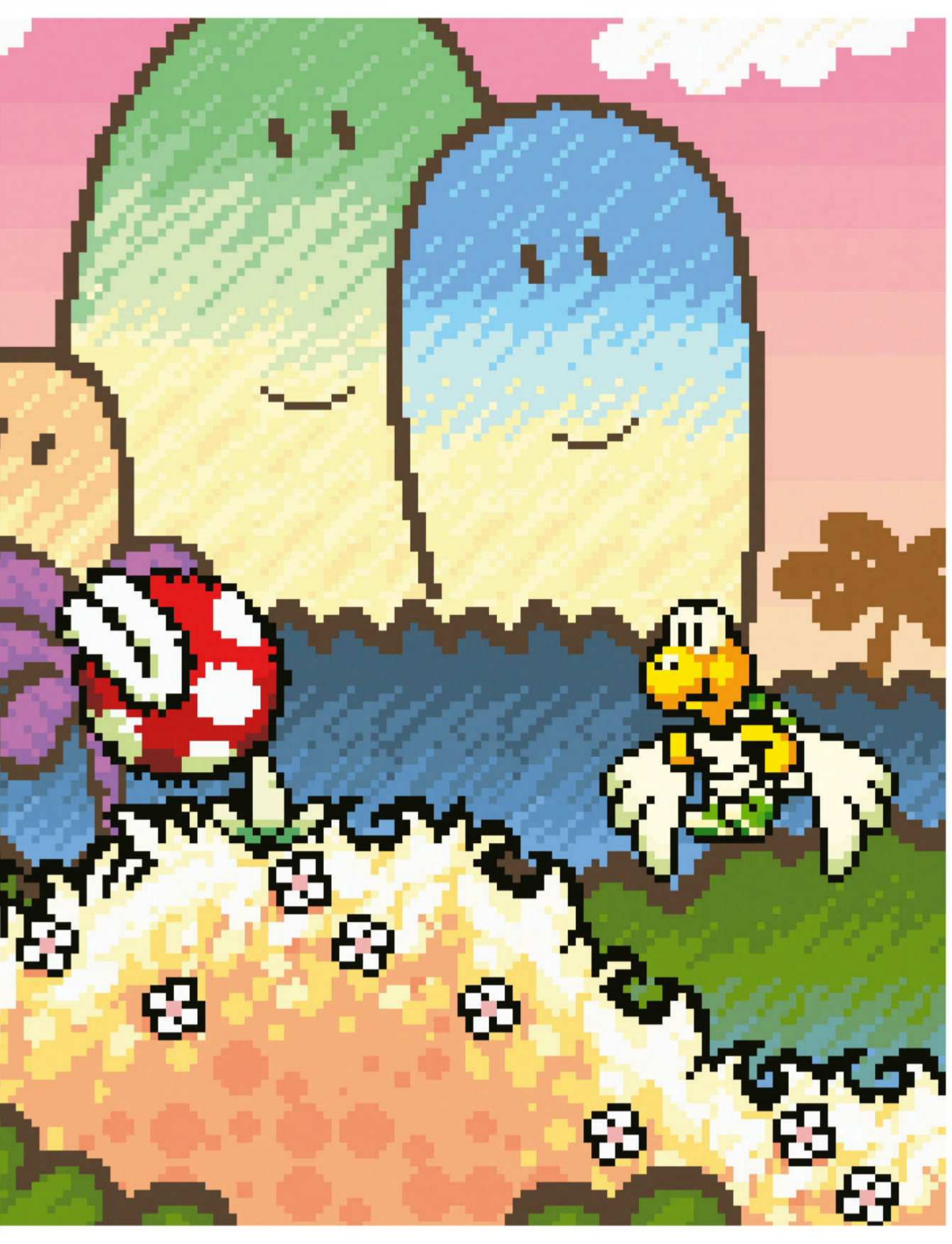
» GAME BOY ADVANCE » 2002 » NINTENDO

I've always had a soft spot for Yoshi. It's not because he's an adorable green dinosaur. It's not because his name derives from the Japanese interjection, meaning 'great'. And it's not even because he bears a striking resemblance to gaming's greatest hero of all, Croc. It's because of this game.

I never had a SNES so the original release of *Yoshi's Island* passed me by, but I fell in love with it's Game Boy Advance reissue almost instantly. The storybook art style, the fun levels and the wide array of obstacles Yoshi faces add up to make one of the best games either the SNES or GBA has to offer.

And on the back of the game's opening cinematic, how could you not think the world of Yoshi? A child falls from the sky quite unexpectedly, and our knight in shining armour (well, just boots really) is willing to risk life and limb to reunite a baby would-be plumber with his brother – no questions asked. That tells you all you need to know about Yoshi really.

Were it not for Yoshi and his colourful clan of Yoshies (realising that he is a Yoshi called Yoshi blew my 11-year-old mind) babysitting Mario all those years ago, everyone's favourite red-capped hero probably wouldn't be around today to stop Bowser time and time again. So who's the *real* hero of the *Super Mario* saga?



Super Retro-Cade

THAT'S THE 'SUPER HANS' BRAND OF SUPER

>> This month Nick takes a look at Retro-Bit's latest offering, and we examine how well Okami has aged

INFORMATION

- **RELEASED:** OUT NOW
- **PRICE:** $59.99
- **PUBLISHER:** RETRO-BIT
- **PLAYERS:** 1-2

We're always keen to see diversity in the plug-and-play market, and Retro-Bit's approach definitely offers that. Following on from last year's Retro-Bit Generations device, the Super Retro-Cade doesn't focus on one console or company, but instead offers over 90 games licensed from Capcom, Irem, Data East and Technos. These are drawn from a variety of systems – you'll find 56 arcade games, 20 from the NES, 15 SNES titles and a lone Mega Drive offering.

The Super Retro-Cade console itself is relatively small and features 720p HDMI output as well as composite AV output for those of you using standard-definition TVs. The system also features a standard SD card slot, which is used exclusively to add space for loading and saving games. The package includes two USB control pads, which are comfortable in the hands, but ultimately feel a little cheap. We were able to get another USB controller to work with the system, but the button mapping was thrown off by doing so.

If you're familiar with last year's Retro-Bit Generations, you'll know that it had some pretty big issues with emulation, as it struggled to run games at full speed. We're pleased to note that the Super Retro-Cade offers a much better experience in this regard – the Mega Drive, SNES and arcade games all run at a good speed now, and input latency isn't the big deal that it was before. We're sure that some differences will be noted compared against real hardware – we noticed some slight audio lag – but that's something common to every plug-and-play emulation system, and the Super Retro-Cade's performance should be acceptable to the majority of players.

The game selection on offer is appealing, with *Mega Man 2* and *Mega Man 3*, *Final Fight*, *Double Dragon*,

» We can't help but think that screen options and a reset game option should have been included in the in-game settings menu.

ALTERNATIVELY...

NINTENDO CLASSIC MINI: SNES

» *Nintendo's plug-and-play mini is a little light on games, but they're almost all true classics, and the build quality is nice.*

SEGA GENESIS FLASHBACK

» *AtGames' Sega offering is still far from perfect, but has improved emulation over past efforts. It also boasts 85 games and a cartridge slot.*

ZX SPECTRUM VEGA

» *This 2015 release is still available, and offers 1,000 games. The emulation is good but the composite video and virtual keyboard hurt it.*

★ PICKS OF THE MONTH

DARRAN

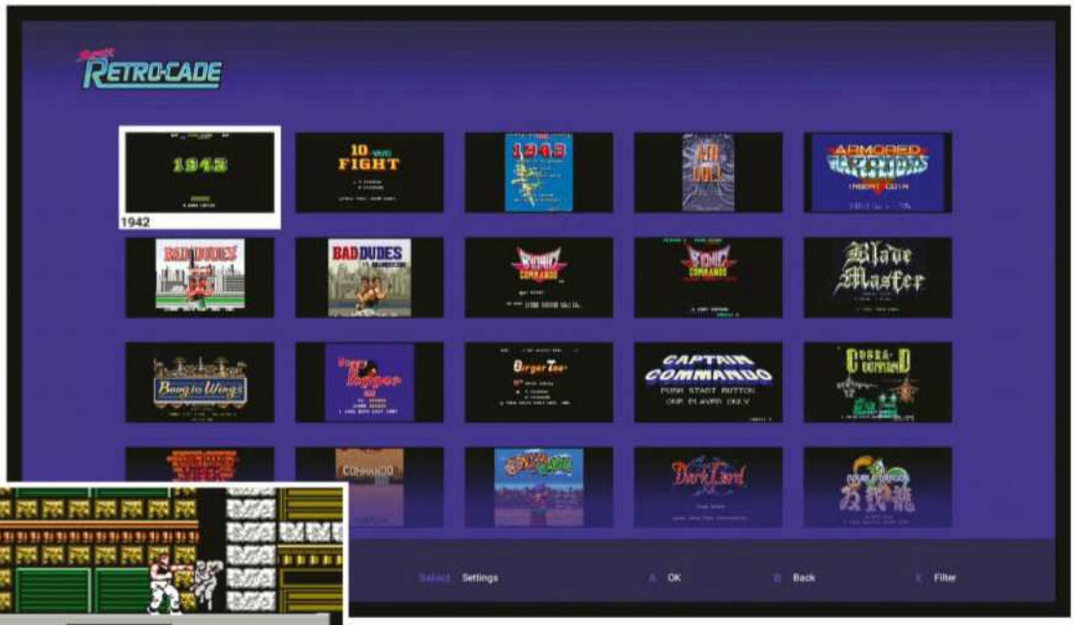
Pinball FX3

The bigger screen size of the Switch makes it perfect for playing pinball games in vertical mode.

NICK

A Hat In Time

3D platform games this good aren't common now, so this indie effort came as a pleasant surprise.



» The main menu is clean, but it lacks information. Thankfully games can be filtered and sorted.

» Including the NES version of *Bad Dudes* when the arcade game is present seems like an odd choice.

BurgerTime, *Strider* and *Ghosts 'N' Goblins* being some of the better-known games included. While they don't have the drawing power of something like the SNES Mini roster, the sheer number of games means that it offers better variety, and you'll quickly uncover new favourites if you're not familiar with all of the games. We've certainly had a great time with the likes of *Super Side Pocket*, *Magical Drop* and *Super BurgerTime* – they're not household names, but they're still a lot of fun to play.

However, the line-up isn't immune from criticism. For a start, to pack so many games in, some filler has been included. Often this is where both the arcade and console versions of a game are included. Sometimes this works out well, as *Strider* is very different on the NES, but in other cases it's somewhat pointless, such as with *Bad Dudes Vs Dragon Ninja*. Other games are untranslated Japanese releases, though this has been mitigated where possible with sanctioned use of fan translations, and, of course, some games like *Street Fighter 2010* are just bad. But what really confuses us is some of the games that aren't present. For example, why are *Double Dragon* and *Double Dragon 3: The Rosetta Stone* included, but not *Double Dragon II: The Revenge*? Why do we have *R-Type III*, but not the original game, and why not complete the original *Mega Man* trilogy?

The system software you use to access the games is littered with oversights. We like that the games can be sorted and you can build a list of favourites, which is essential with so many games to choose from. Likewise, we appreciate the ability to remap buttons, and the button configuration reminder that pops up when you pick a game. However, it's frustrating that game names are only revealed when you've got the game highlighted – while all the games are represented with a title screen thumbnail, some are in Japanese so you can't rely on that.

Nowhere is this lack of thought more apparent than in the video department. You're only given two choices – original aspect ratio or stretched full screen, and the latter is the default. This looks bad on most games and utterly atrocious on vertically oriented games like *Mercs*. More annoyingly, you have to set your preferred screen option for every individual game, and can't do so from the pause menu. Either way, you're stuck with scaling that leaves pixel edges looking soft as there are no filters on offer, nor can you add scanlines or rotate the image for vertical games.

So we're in two minds about the Super Retro-Cade. It feels like it's been sent to market in an acceptable state – it works fine, but it's unpolished and missing some features that you'd hope to see, particularly if you're a picture perfectionist. However, we can't deny that we've had fun with it, because the Super Retro-Cade does offer some excellent games across a wide variety of genres. So long as you're okay with the drawbacks that come with them, you'll have a great time with the system. ✱

» Some games feature untranslated Japanese text, though none do so to the point of ruining the game.

In a nutshell

The Super Retro-Cade offers a great selection of games, and at an attractive impulse-level price. But as it stands it's just decent and could use some better system software.

» The default stretched presentation for vertical games, like *Mercs*, is truly dreadful.

✱ HALL OF FAME

Our pick of the Super Retro-cade's best

SUPER SIDE POCKET

Well worth playing, if only for its hilariously appalling physics.

STRIDER

As if Darran wasn't going to put this on the list…

MAGICAL DROP

An excellent puzzler that nearly made this month's Beat The Team.

SUPER BURGERTIME

A great sequel that adds plenty of improvements over the original.

PICK OF THE MONTH

Pinball FX3

» **System:** Switch (Tested) » **Buy it from:** Online » **Buy it for:** Free (with in-app purchases)

Pinball games come in two distinct forms nowadays. Releases like *Pinball Arcade* tend to recreate faithful interpretations of classic tables, while companies like Zen Studios tend to simply make pinball tables in videogame form, delivering all sorts of cool features that wouldn't always be possible on a traditional table. We're covering both this issue, but the latest offering from Zen Studios is easily our favourite and we've spent lots of time over the Christmas break racking up silly scores on it.

As with its counterpart, *Stern Pinball Arcade*, you're effectively getting the game for free with the option of buying additional tables (although *Stern Pinball Arcade,* thankfully, also features a physical version with all the current tables on it). *FX3* comes with the enjoyable table Sorcerer's Lair, with additional tables available separately or bundled, with prices ranging from £2.69-£17.99 (for nine tables). It's a good approach, allowing you to simply invest in the tables that appeal to you and the 30 that are currently available range from licensed tables, including *American Dad* and *Jaws* to Zen Studio's own creations.

What makes *Pinball FX3* stand apart from its competitors is the excellent presentation and the sheer amount of online interactivity that it offers. There are always scores to beat, challenges to chase and a new built-in progression table that rewards you with skins, as well as new upgrades, including the ability to rewind tables as you earn experience. Each table typically has its own unique challenges, while it's also possible to take part in multiplayer options like Hot Seat mode (where players simply pass the Switch around locally). There's also the option to play the game holding the Switch vertically, which really shows off the intricacy of each table and touch screen support is also included. This is quite simply the best pinball experience currently available on Nintendo's console.

>> Score **90%**

» [Switch] There are currently 30 tables available to buy.

» [Switch] Tables come to life in *Pinball FX3* in a way that's just not possible in regular pinball.

A Hat In Time

» **System:** PS4 (Tested), Xbox One, PC, Mac
» **Buy it for:** £23.99 » **Buy it from:** Online

A Hat In Time borrows a lot from the N64's 3D platform library – a pinch of *Mario 64*'s hub world here, a dash of *Banjo-Kazooie*'s humour there – but it's more than a tribute act. The goal is to recover Time Pieces from within the game's enormous stages, which see you doing anything from infiltrating movie sets to fighting the mafia. The variety of tasks on offer ensures that boredom doesn't set in. Stitching together hats grants abilities, such as sprinting, and the introduction of new powers is handled smartly. It's clear that the developer knows its audience – there's not a lot of hand-holding, and the challenge kicks in quickly. There are some technical rough edges like occasional camera wonkiness, but they rarely detract from the fun.

>> Score **82%**

Stern Pinball Arcade

» **System:** Switch » **Buy it from:** Retail, online
» **Buy it for:** £34.99, free (with in-app purchases)

Fans wanting an authentic pinball experience will not be disappointed by System 3's latest Switch release. It features accurate ball physics and faithful reproductions of 11 fantastic Stern tables that range from *Starship Troopers* and *Ghostbusters,* to AC/DC and *Star Trek*. Each table feels different and there are also unique challenges on each to complete, which adds to the game's longevity. Like *Pinball FX3*, a free version exists so you can add DLC tables as you see fit, but they're otherwise very different games in terms of how they play. While, the overall product is let down by its presentation, a lack of strong online and multiplayer options and the ability to play tables in vertical mode, it still manages to play a mean game of pinball.

>> Score **70%**

Okami

» **System:** PS4 (tested), Xbox One, PC
» **Buy it for:** £15.99 » **Buy it from:** Online

We're not sure if Hideki Kamiya had futureproofing in mind when his team created *Okami* in 2006, but its art style still remains as vibrant today as it ever has. And this recent HD remaster shows it off beautifully, especially if you're lucky enough to jack the resolution up to 4K. Cracks do show when it comes to the rest of the game, however: combat feels a little sluggish by today's standards and the pacing at the beginning of the story is arduous. That said, for every blemish there's still a flourish – the way Amaterasu actually gains momentum as she runs, for example, or how she falls asleep when NPCs jabber on. *Okami* is still as endearing as it was almost 12 years ago.

>> Score **80%**

THE ULTIMATE COLLECTOR'S GUIDE TO THE PLAYSTATION

ON SALE NOW

From the makers of Retro Gamer comes the PlayStation Book, celebrating over 20 years of the console that truly brought gaming to the masses

- Find out how the PlayStation changed gaming
- Discover 20 great games you've never played
- Go behind the scenes of your favourite games

Future

Ordering is easy. Go online or get it from selected supermarkets & newsagents

www.myfavouritemagazines.co.uk

MUTANT CATERPILLAR GAMES

Breathing new life into old micro-computers since 2009

We ship worldwide ... All stock tested and guaranteed for one year ... Specialists in 8-bit and 16-bit micro-computers

REPAIRS
HARDWARE
SOFTWARE

NOW ALSO OFFERING

divMMC Future

NEW REVISION!
SD CARD READER
FOR YOUR ZX SPECTRUM

Email: enquiries@mutant-caterpillar.co.uk
Web: www.mutant-caterpillar.co.uk/shop/
Telephone: 01970 625441
Facebook: www.facebook.com/mutantcaterpillargames/
Ebay: mutant-caterpillar

Gamers HOMEBREW

Brewing since 2005

» [Amstrad CPC] Guiding the craft in *Phantis Legacy,* and about to mess up.

Gaming NEWS

AMSTRAD ACTION

Sponsored by the University of Alicante, the Amstrad CPC-specific Retro Dev competition for 2017 led to an impressive 29 releases.

To begin with, there are puzzles to tax the brain. *Color Flood* is a simple, but still effective, game about filling as much of the playfield as possible with a single colour before the other players get there. Next up, *Phantis Legacy* is a tribute to the now 30-year-old action game *Phantis* – which challenges the player to guide a spaceship safely across the screen using a limited supply of command tiles which can be laid in its path.

Platform-based puzzles were also let loose with *Laser Boy,* which seems to be a little inspired by *Super Meat Boy* and allows the player repeated attempts at each screen if they need it. *Profanation 2* is an unofficial sequel to *Abu Simbel Profanation* and, from what we've seen so far at least, just as challenging as the original, while *Baba's Palace* has a slower pace and requires a more methodical approach. *Tunnel Effect* is an interesting attempt at making the game mechanics of *Portal* work in 2D – there are a lot of controls to worry about, and then there's *Cris – Odd Prelude* which takes some of its cues from *Another World.*

There's an abundance of shooting action, too. *Bitume* is a car-based blaster where road rage extends to destroying other drivers, *4676 Invasion* also moves horizontally, however it restricts the player to vertical movement and penalises them if a nasty escapes the playfield. *My Galaxy* scrolls vertically, with the player craft having to dodge obstacles while it destroys the enemies, and for those who would rather wade in on foot with all guns blazing than using a vehicle, both *Proton Smoke* and *Raimbo* are variations on the theme of one hero taking on an entire army alone. These entries and more can be found behind Kikstart.eu/cpc-retro-dev-2017. Amstrad CPC owners should head over to see what takes their fancy.

Also for the Amstrad is *The Orient Express 1923* where the player takes on the role of a spy aboard the titular train, aiming to rendezvous with a former arms dealer who has information that will solve the murder of his associate. Talking to some of the other passengers will shed light on the case as well so keeping notes is wise. There are some important clues behind Kikstart.eu/orient-express-cpc, along with a download.

» [Amstrad CPC] *Cris – Odd Prelude* has a strange, but pretty, world.

» [Amstrad CPC] Don't let anything past the final frontier in *4676 Invasion.*

NEW GAMES NEEDED

If you have a homebrew project you would like to see featured then please contact us at: **darran.jones@futurenet.com**

» [MSX] MSXdev entry *Zevimodoki*'s influences are showing a little here.

MSX MAJESTY

The MSXdev competition for 2017 is over and two winners were announced. The platform based *XSpelunker* took first place for classic hardware – it also jointly won the community award with dragon-powered blaster *Draconic Throne,* as voted for by MSXdev forumites – and the *Xevious*-inspired scrolling shoot-em-up *Zevimodoki* came first in the MSX freestyle category.

There were ten entries which can be downloaded from the relevant posts at MSXdev.org – we have looked at some during the course of the competition too – and the full results can be found at Kikstart.eu/msxdev-2017-report.

> **"The game that grabbed our attention was RetroForce"**

» [ZX Spectrum] *RetroForce*, is a vertical shoot-'em-up based on a classic coin-op.

SPECCY SMASH

ZX Dev Conversions is another competition, and it does pretty much what it says on the tin. Developers are challenged to create games for the Spectrum which are conversions – the source material can either be existing games for other platforms or inspired by media such as television, films or books.

The game that grabbed our attention was *RetroForce,* which is an attempt to replicate the high-octane shooting action of coin-op classic *Star Force* and seems to fare pretty well. *RetroForce*, other entries and some discussion on the game can be found at Kikstart.eu/zx-dev-conversions.

HOMEBREW HEROES

The Amstrad GX4000 and associated computers have seen some love from devs and Stephen Hawood is one of them. We found a quiet woodland area for a chat and asked about bears and Amstrad consoles

THE BIG INTERVIEW Stephen Hawood

Where'd you get the idea for an RPG about bears?
I've always been a fan of console RPGs, such as the *Dragon Quest* and *Etrian Odyssey* series, so I thought I would have a go at making my own. There are actually several nods to some of my favourite games in *BEARS!* to look out for. I wanted to avoid the usual cliche fantasy settings, though, so I took inspiration from my girlfriend's teddy bear collection. It wasn't difficult to think of scrapes they could get into!

How long did *BEARS!* take to develop and how many people were involved?
The 'team' is just me! I worked on it on and off over the course of about three years. However, this is my first full production written in assembly, so a good portion of that time has been a learning curve and building up a toolbox of useful routines. Hopefully this means that future productions shouldn't take quite so long. Having gone through the process, I'd say the most valuable skills needed to produce a finished game are patience and organisation!

» [GX4000] Halloween is over, you'll have to wait until next year matey.

Why were the 464+, 6128+ and GX4000 chosen as the target platforms?
These systems have a lot of unrealised potential and there are too many game genres that were under-represented or completely non-existent in the original software catalogue. I want to change that. The 6128+ was also my childhood computer so there is probably an element of nostalgia as well.

How difficult are these platforms to develop for?
The Amstrad Plus range has lots of nice features such as hardware sprites, DMA sound and a huge colour palette, all of which make life a lot easier. The technical specifications are also well documented online which helps and there are some good emulators available with built-in assemblers/debuggers. There is a nasty hardware bug related to interrupts to watch out for though, the guys over at the CPCwiki only got to the bottom of that one last summer.

What sort of response has *BEARS!* received from Amstrad gamers?
People have commented on the humour and the 15kHz sampled bear growl on the intro screen! There's a few hours of gameplay in there, so there's plenty for people to sink their teeth into. I have tried to keep the battle system as simple as possible whilst maintaining some tactical depth, I was pleased to see that people have taken to it well. Now I've got my website up and running (sohde.co.uk), I plan to spread the word online so more people can enjoy it.

Finally, are there any further GX4000 titles in the pipeline from yourself?
Definitely. I'm currently working on a strategy role-playing game which I think will appeal to fans of games like *Final Fantasy Tactics*, then next in the queue is a lightgun-compatible rail shooter. I would also like to see the analogue joystick port get some love in the future. Beyond that, we will have to wait and see!

» [GX4000] Some bears defecate in the woods, others have well-stocked workshops.

DO YOU REMEMBER?

Aliens from a distant world are coming to Earth and plan to take over the Amiga in *Amoeba Invaders*, a freeware clone of *Space Invaders* released by the rather grandly-titled LateNight Developments Corporation in 1991.

There aren't any enhancements to the original, so the intruders trudge back and forth across the screen and constantly pepper the player's turret and the shields used as cover with bullets. As always, reducing the number of attackers will make the remaining ones speed up and there is a UFO which gives a score bonus if shot.

Unusually, this is an action game which was written to multitask, so Workbench programs can continue running in the background while the assault is repelled. Head to Kikstart.eu/amoeba-amiga if you're interested in blasting some aliens.

» [Amiga] Picking off the invaders, one shot at a time.

» [Amiga] Here's a familiar sight, just the one straggler remaining. Shoot it down!

» [ZX Spectrum] Sir Clive's personal transport, but does the battery still work?

EGGHEAD 6: EGGHEAD GOES TO TOWN

» **PLATFORM:** SINCLAIR SPECTRUM » **DEVELOPER:** JONATHAN CAULDWELL » **DOWNLOAD:** KIKSTART.EU/CAULDWELL-DOWNLOADS » **PRICE:** FREE

Those lovable scamps at *Crash* have been working hard all week and now its beer o'clock so they've retired to the local pub, taking a stack of pages along to presumably get a little proofreading in around the consumption of alcohol. This plan is going swimmingly until a huge gust of wind through the beer garden whips up those all-important pages and carries them away, distributing their writing all over the place. Only one man can make his way around town to gather up the pieces, or more accurately just one egg.

We join *Egghead* at the start of his quest in the stables but the search for *Crash* pages will cover a lot of ground including a visit to the local sorting office, trekking through the sewers and even dropping in on Sir Clive Sinclair's private garage which contains a rather forlorn-looking C5. The sheer size of the town is initially daunting to the point where getting lost is almost certain – making some kind of map is advisable for various reasons – but help comes in the unexpected form of phone boxes which act as teleporters, allowing Egghead to zip around at will.

Fans of the *Egghead* series will already know what to expect as far as challenges go and this latest instalment doesn't disappoint, offering up a large number of screens which are filled with deadly hazards and patrolled by strange creatures or machines. Making a mistake will result in yolk being splattered all over the screen so the gathering of extra lives is a must. Some of the trickier sections might even appear to be impossible, but can be passed with the application of a little thought and lots of dexterity.

Egghead 6 was released on cassette as a reward for the *Crash Annual 2018* Kickstarter campaign but, after the contributors received their copies, developer Jonathan Cauldwell has released it as a free download on his website as well. This is a fine addition to the *Egghead* series and Spectrum owners should get cracking with it.

>> Score **93%**

» [ZX Spectrum] This embassy doesn't seem to have any fancy chocolates.

» [ZX Spectrum] The pages really have been scattered all over the place.

Don't forget to follow us online for all the latest retro updates

RetroGamerUK @RetroGamer_Mag darran.jones@futurenet.com

CHIBI AKUMAS – EPISODE 2

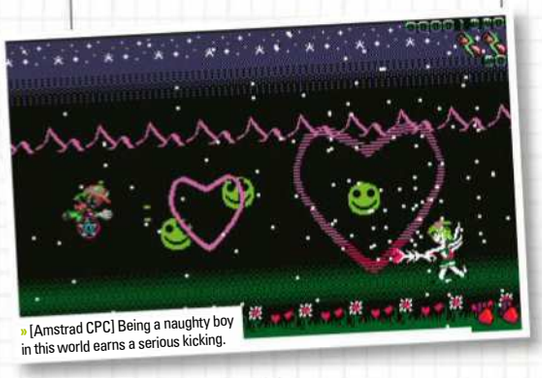
» **PLATFORM:** AMSTRAD CPC » **PRICE:** FREE
» **DEVELOPER:** KEITH SEAR
» **DOWNLOAD:** KIKSTART.EU/CHIBI-2-CPC

» [Amstrad CPC] The budget for enemy bullets must be enormous.

The sleepy hamlet of Nicoyama is under threat, with the despicable Chibiko massacring the innocent while trying to resurrect her equally cruel brother. The call has been sent out for two great warriors who tackle evil wherever it may be, but they weren't available so the less impressive Hero Twins have stepped in. Considering their track record, things may have just gone from bad to worse.

We enjoyed the original back in issue 165 and this sequel improves on pretty much everything; graphics have been refreshed, the mature humour is even more apparent – player and enemy characters trash talk and swear at each other during play – and there's still a barrage of bullets to worry about. The generous-sounding 60 continues dished out by the default mode can be quickly burnt through by novice players, but shoot-'em-up aficionados should get their eye in quickly.

>> Score **88%**



» [Amstrad CPC] Being a naughty boy in this world earns a serious kicking.

COOKIE

» **PLATFORM:** COMMODORE 64 » **DEVELOPER:** ANDY NOBLE
» **DOWNLOAD:** KIKSTART.EU/COOKIE-C64 » **PRICE:** FREE

Charlie the chef has an odd relationship with his ingredients; he keeps them organised and locked away in compartments within his pantry but this proves upsetting for them so now the foodstuffs are getting restless. When one kind of ingredient breaks free they must be herded into the mixing bowl using flour bombs, but the fight to escape means that bits of the pantry itself are thrown into play and need to be pushed into the bins, along with whatever detritus is thrown out by the creature living there.

Cookie is a conversion of the Ultimate game from the Spectrum, but with the graphics and sound reworked for the C64. Its frenetic and fun to play but also remarkably hard with the collision detection siding more with the ingredients than the player, so be prepared for some frustrating moments filling the bowl without accidentally contaminating the contents with flying rubbish.

>> Score **70%**

» [C64] Depositing another ingredient into the bowl with just five more to go.

ROUNDUP

Based on a French game from the Eighties *Dracula's Castle* is a tricky platformer for the C64 with all manner of vampiric nasties roaming the halls and landings to get in the player's way. The newly-released version is translated into English and the program itself is now assembly language, so peer behind Kikstart.eu/draculas-castle-c64 for a download link.

Xelda – Quest For The Golden Apple on the Spectrum borrows a few ideas from a certain Nintendo franchise but isn't a direct clone. The golden apple of the title is part of a magical statue which, since it's not complete, can no longer keep the island dwellers safe from invading monsters. There are over 200 different screens to explore your way around and the adventure begins at programmer Andrew Dansby's website over at Kikstart.eu/golden-apple-spec.

THE BIG BURRITO

» **PLATFORM:** ATARI 7800 » **DEVELOPER:** CLARK OTTO » **DOWNLOAD:** KIKSTART.EU/BURRITO-7800
» **PRICE:** FREE DOWNLOAD, $25 PLUS SHIPPING FOR CARTRIDGE

The title of assistant store director might sound rather swish, but for one Mr Cogell it's a nightmare since his job at a grocery store basically involves running around after and kissing up to his rather unpleasant boss. There's one glimmer of hope, the obnoxious employer has a weakness for Mexican food which will distract him from abusing his underling.

Our beleaguered hero can search the warehouse for deep-fried burritos but can only carry one at a time, so he must ferry them to his waiting boss while avoiding the out-of-control pallet trucks, forklifts and shopping carts. When enough burritos have been deposited the freight elevator to the next floor unlocks.

The execution of *The Big Burrito* is pretty rough with weak graphics, some visual hiccups and very little sound, but the action is at least amusing in short bursts – would-be purchasers might want to try before they buy.

>> Score **52%**

» [Atari 7800] This is very similar to those food sellers at baseball games.

» [Atari 7800] The burrito so big that using the forklift might be wise.

MAILBAG

HAVE YOUR SAY... SEND US A LETTER OR MAKE YOURSELF HEARD ON THE ONLINE FORUM – **WWW.RETROGAMER.NET**

WIN!

Every month, one lucky writer-in will receive a spanking copy of either our NES/Master System or SNES/Mega Drive books

BEAT THE TEAM

SUPER BURGER TIME

Inspired by the game's inclusion on the Super Retro-Cade, we took to competing on Data East's patty-stacking sequel

DREW **178,600**

"Before going to university I used to work in a restaurant kitchen, and I was pretty surprised at how *Super Burger Time* accurately portrays the professional culinary business."

NICH **143,900**

"Keep an eye on your item timer – there's nothing worse than going to attack an enemy and finding that you're completely unarmed."

DARRAN **103,800**

"My plan was to play this loads and loads over the Christmas break so I could rightly claim my place as retro overlord upon my glorious return. Guess who forgot to do his one job..."

SAM **99,900**

"*Eggs! So many fried eggs! They were everywhere. Everywhere!* I lose it on the same level every damn time. I think the trick to 2-1 must be speed – but I just can't beat it."

SEAL SLEUTHING

Dear **Retro Gamer**,

I am a big retro games fan (age 45) and have spent a large chunk of my youth playing ZX Spectrum games. I have recently seen a lot of these games being sold on eBay claiming to be 'mint and sealed' in a cellophane shrink wrap. I think these are fake, as I can never remember ever seeing a cassette being packaged like this – what's the point?! They always had the cassettes behind the counter in Boots and WH Smith in Poole where I grew up.

I emailed one of the sellers who was selling a lot of Ultimate games 'new and factory-sealed' and asked him which factory they came from but he couldn't answer this.

I am probably not the first to ask this, so apologies if this is common knowledge, but what is your opinion?

Paul Davis

Hi Paul, it's a really good question that you put forward to us so we needed to double check the answer. We had a look back at the BBC Commercial Breaks documentary from the Eighties, which covered both Imagine and Ocean. There's a particular scene in the classic documentary that does show the cassette manufacturing process, and you can see copies of *Hunchback II* sealed up with a tear strip, in the same way the sealed Ultimate games on eBay are packaged. This doesn't eliminate the possibility that they've been resealed, of course. However, it's clear that at least some games were sent to retailers in this state, although many probably opened them immediately for display.

BONUS BOOKS

Dear **Retro Gamer**,

Many thanks for including a calendar with **Retro Gamer** 175 – it was a nice throwback to the Christmas issues from magazines of old (even if I do still miss your festive covers). Since you seem to be doing these added bonuses with the magazine more often now, could I suggest a series of cheat books for different platforms? I used to love getting these with magazines in the Nineties and I'm sure they'd still be a handy reference guide today.

D Smith

STAR LETTER

WHERE'S MY CRASH?

Dear **Retro Gamer**,

There are some interesting trends in the retro gaming scene right now, wouldn't you say? I'm particularly interested in how bigger companies seem to be taking legacy platform support seriously.

Just look at the evidence. Sega has just signed an agreement to do new licensed controllers with the same company that has been releasing Data East multicarts. Piko Interactive is still picking up old games for rerelease, and Capcom even endorsed a new run of SNES *Street Fighter II* carts (though that fire warning put me off them, personally).

So could 2018 finally be the year that we see the price crash the retro gaming market so desperately needs? *Mega Man X2* just went for £650 on eBay. There's clearly demand there, and Capcom doesn't see a penny from it – but it would if it licensed a company to make some brand-new copies. And what's to stop Sega doing the same with the likes of, say, *Alien Soldier*? We want these games, and it feels like the opportunity to finally get them at non-insane prices is almost at hand.

Come on, games publishers. Take my money.

Rich Nicholls

» These cartridges are certainly a welcome addition to the range of products retro gamers can buy.

We'll welcome anything that makes retro gaming a more affordable hobby, and if new officially licensed cartridges can do that, we're on board. However, we're not sure if the price crash you want will materialise, and there's a couple of reasons for that.

Firstly, any reprint venture is risky – overmanufacturing a game only to find that the demand doesn't materialise can tank your whole company. As a result, we'd expect these to be pretty limited runs, whenever they do happen.

Secondly, although companies have nothing to lose financially by screwing the people that inflate the prices of rare games, they may wish to avoid the PR backlash that may come with it. This, we'd wager, its why the Capcom and Data East cartridges released in 2017 have different colours and designs – it keeps them distinct from the original run, so people who like rarity and money more than the actual games can still say 'RARE FIRST EDITION L@@K' on their eBay auctions.

Still, we would rather you were right than us, so have a Retro Gamer bookazine.

Don't forget to follow us online for all the latest retro updates

RetroGamerUK @RetroGamer_Mag Retro Gamer Magazine @RetroGamerMag

CONTACT US

Snail Mail: Retro Gamer, Future Publishing, Richmond House, 33 Richmond Hill, Bournemouth, Dorset, BH2 6EZ

Email: darran.jones@futurenet.com

We don't get too much demand for cheat-related content in the magazine – probably because it can easily be found elsewhere. We might be wrong and end up with a flood of requests for it now, but unless that happens we'll probably look at other plans.

GET TO DA CHOPPA!

Hi **Retro Gamer**,

I loved the *Star Paws* feature! I used to play it on the C64 – all those hours lost trying to catch all them space ostriches before bedtime as a kid!

» [C64] Cisko Kidd wants to see *Arnie* in the magazine, and it's certainly not a bad game.

I would like to see a feature on another C64 game that has often been overlooked, one called *Arnie*! It's a third-person shoot-'em-up where he has to go through different stages to get to the last bit of the level to kill the general, avoiding being shot, blown up or stabbed by the countless numbers of enemy soldiers out to get him. This was a game I felt was more easy to play than the much harder sequel *Arnie 2*.

Cisko Kidd

We're glad to hear you enjoyed the *Star Paws* feature. It's easy to see why Arnie has been overlooked, as it was quite a late C64 game – most people would have moved on by late 1992. Still, it was well received by the likes of *Zzap!64* and *Commodore Format*, so if we can track down Chris Butler it's something we might cover.

DISCUSSED THIS MONTH

The Mass Breaking

Calamity seems to have befallen Darran this month, as everything he owns is breaking. His fridge called it quits, and he nearly took out the electrical box by replacing it. He's also had to shell out for a new cooker and worst of all, a new boiler. Ironically, the one thing he wants to break won't, as he'd like to replace his TV with a brand-new swanky 4K HDR model.

From the forum

Every month, Retro Gamer asks a question on the forum and prints the best replies. This month we wanted to know…

What are your retro gaming wishes for 2018?

Arnie

I'm hoping the Spectrum Next becomes readily available (and I don't mean via an eBay rip-off merchant) and that it lives up to its promise.

The Laird

I am hoping that the Atari Box actually turns out to be something really good that truly revives the once-great brand!

seekingvirtue

I am hoping to see the YouTube videos come back where the team would preview the print magazine. Those were the days lads, those were the days.

kiwimike

I am interested in the Atari Box, not much has been said of course, but I would love a true retro machine that really gave us all Atari's history and some real quality as many of these retro things are overpriced and cheaply made. If I had a wishlist it would be that it could emulate all the old Atari machines from VCS to Jag. A guy can dream. Probably more realistically, I would like a Mini N64 to go with the NES/SNES.

RetroMartin

Shining Force III books one to three and the additional stuff, all released as a current-gen budget release. That is all…unless they do the same with *Shenmue* and *Panzer Dragoon Saga*.

ncf1

More games like *Thimbleweed Park*. Not only did it scratch a nostalgic itch in magnificent fashion, it improved upon the classic point-and-click adventure in a variety of ways, and one superb game like this is simply not enough. Ten more, please.

» [PC] Ncf1's 2018 retro wish is for more games in the style of Thimbleweed Park.

smccd

A Neo-Geo bookazine from the fine folks at *Retro Gamer*.

PostieDoc

I wish for *Monkey Island 3* and *Monkey Island 4* on GOG.

Lais

I would like to see a brand new retro inspired 2D Mario game. On the back of the recent success of Sega's *Sonic Mania* it would be great to see Nintendo announce a *Super Mario World*-inspired release. The gimmick would get lots of publicity I imagine and would surely do well from a sales point of view. C'mon Nintendo.

subscriptions

My own retro wish is to be featured in the Mailbag section of **Retro Gamer**.

retro GAMER

Future PLC Richmond House, 33 Richmond Hill, Bournemouth, Dorset, BH2 6EZ

Editorial

Editor **Darran 'Captain CPC 464' Jones**
darran.jones@futurenet.com
01202 586237
Production Editor **Drew 'Major Mega Drive' Sleep**
Senior Staff Writer **Nick 'Agent Atari 2600' Thorpe**
Senior Designer **Sam 'General Game Boy' Ribbits**
Group Editor in Chief **Tony Mott**
Senior Art Editor **Warren Brown**

Contributors

Writing Martyn Carroll, David Crookes, Paul Drury, Kieren Hawken, Jason Kelk, Graeme Mason, Rory Milne, Paul Rose, Paul Walker-Emig
Art Jonathan Wells

Advertising

Media packs are available on request
Commercial Director **Clare Dove**
clare.dove@futurenet.com
Advertising Director **Tom Parkinson**
tom.parkinson@futurenet.com
Account Director **Kevin Stoddart**
kevin.stoddart@futurenet.com

International

Retro Gamer is available for licensing. Contact the International department to discuss partnership opportunities.
International Licensing Director **Matt Ellis**
matt.ellis@futurenet.com

Subscriptions

Email enquiries **contact@myfavouritemagazines.co.uk**
UK orderline & enquiries **0344 848 2852**
Overseas order line and enquiries **+44 (0) 344 848 2852**
Online orders & enquiries **www.myfavouritemagazines.co.uk**
Magazines Marketing Director **Sharon Todd**

Circulation

Head of Newstrade **Tim Mathers**
01202 586200

Production

Head of Production **Mark Constance**
Production Project Manager **Clare Scott**
Advertising Production Manager **Joanne Crosby**
Digital Editions Controller **Jason Hudson**
Production Controller **Vivienne Calvert**

Management

Managing Director **Aaron Asadi**
Commercial Finance Director **Dan Jotcham**
Editorial Director **Paul Newman**
Head of Art & Design **Rodney Dive**

Printed by

Wyndham Bicester, Gravnville Way, Bicester, OX26 4QZ

Distributed by Marketforce, 5 Churchill Place, Canary Wharf, London, E14 5HU www.marketforce.co.uk Tel: 0203 787 9060

ISSN 1742-3155

We are committed to only using magazine paper which is derived from responsibly managed, certified forestry and chlorine-free manufacture. The paper in this magazine was sourced and produced from sustainable managed forests, conforming to strict environmental and socioeconomic standards. The manufacturing paper mill holds full FSC (Forest Stewardship Council) certification and accreditation

All contents © 2018 Future Publishing Limited or published under licence. All rights reserved. No part of this magazine may be used, stored, transmitted or reproduced in any way without the prior written permission of the publisher. Future Publishing Limited (company number 2008885) is registered in England and Wales. Registered office: Quay House, The Ambury, Bath BA1 1UA. All information contained in this publication is for information only and is, as far as we are aware, correct at the time of going to press. Future cannot accept any responsibility for errors or inaccuracies in such information. You are advised to contact manufacturers and retailers directly with regard to the price of products/services referred to in this publication. Apps and websites mentioned in this publication are not under our control. We are not responsible for their contents or any other changes or updates to them. This magazine is fully independent and not affiliated in any way with the companies mentioned herein.

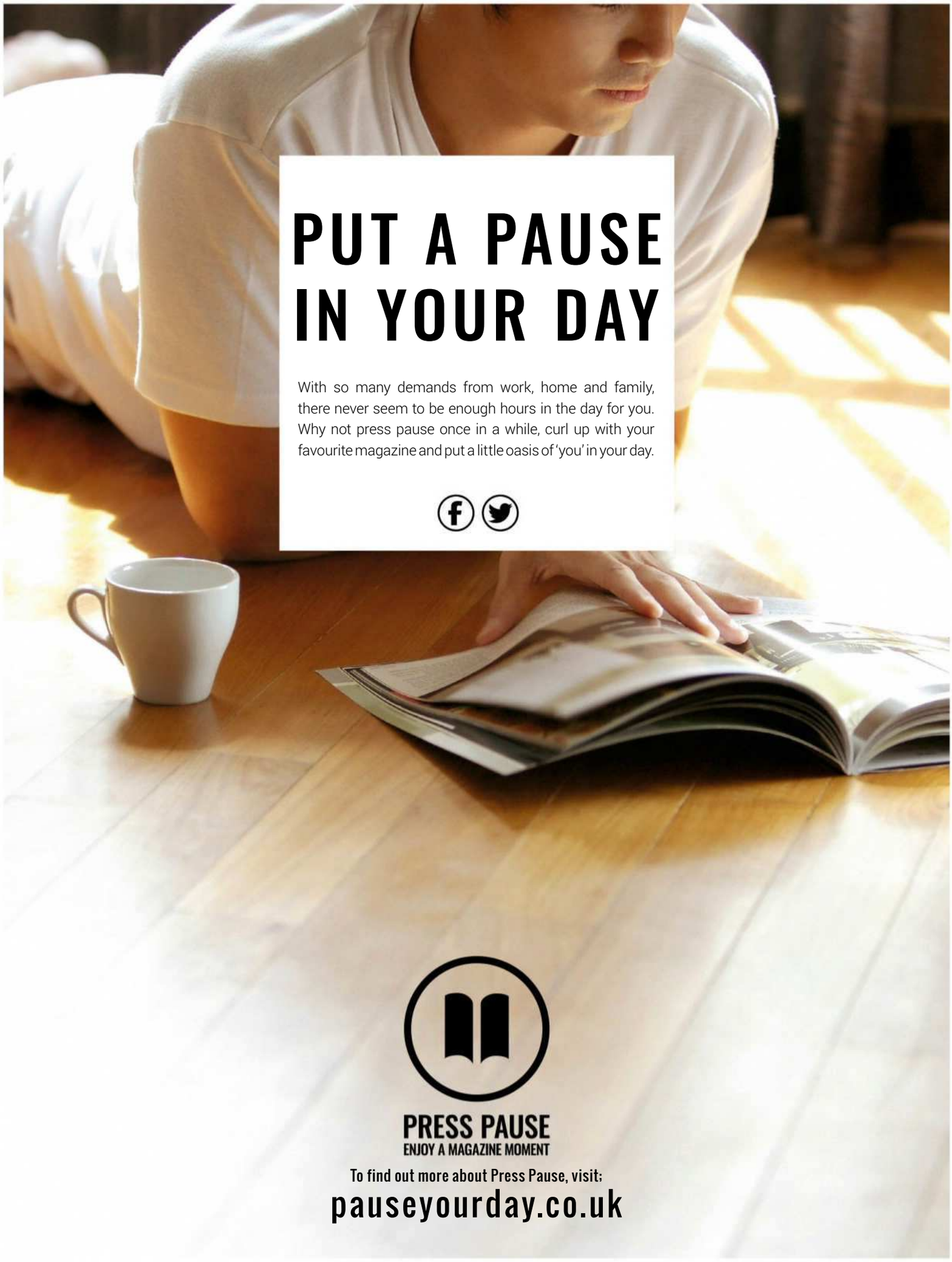
If you submit material to us, you warrant that you own the material and/or have the necessary rights/permissions to supply the material and you automatically grant Future and its licensees a licence to publish your submission in whole or in part in any/all issues and/or editions of publications, in any format published worldwide and on associated websites, social media channels and associated products. Any material you submit is sent at your own risk and, although every care is taken, neither Future nor its employees, agents, subcontractors or licensees shall be liable for loss or damage. We assume all unsolicited material is for publication unless otherwise stated, and reserve the right to edit, amend, adapt all submissions.

FUTURE
Connectors. Creators. Experience Makers.

Future plc is a public company quoted on the London Stock Exchange (symbol: FUTR)
www.futureplc.com

Chief executive **Zillah Byng-Thorne**
Non-executive chairman **Peter Allen**
Chief financial officer **Penny Ladkin-Brand**

Tel +44 (0)1225 442 244


PUT A PAUSE
IN YOUR DAY
With so many demands from work, home and family, there never seem to be enough hours in the day for you. Why not press pause once in a while, curl up with your favourite magazine and put a little oasis of 'you' in your day.
PRESS PAUSE
ENJOY A MAGAZINE MOMENT
To find out more about Press Pause, visit:
pauseyourday.co.uk

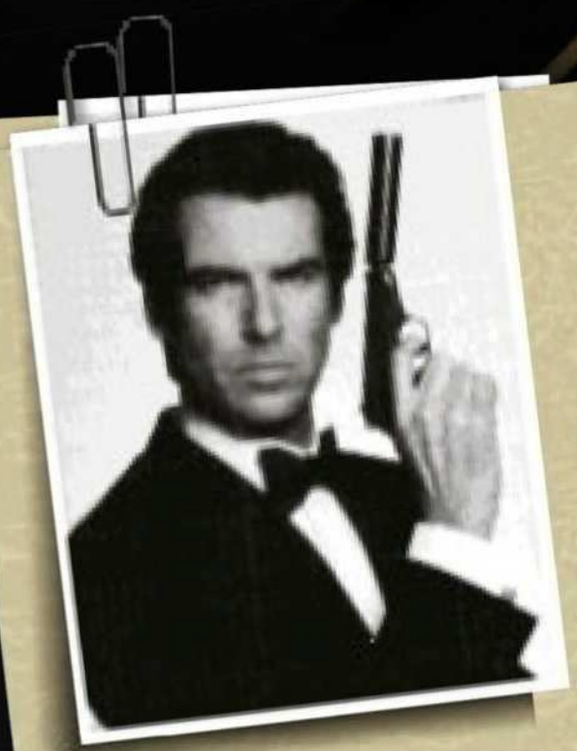
>>LOAD 176

nextmonth

ON SALE 22 FEBRUARY 2018

GoldenEye 007

The full declassified report on James Bond's greatest videogame adventure



ALSO INSIDE

Enduro Racer, The History Of Football Manager, The Need For Speed, Oh Mummy, MUD: The original dungeon delver, Warthog, Jane Whittaker, Inside CRL's horror games, Crash Bandicoot, Commodore 64, Kingpin: Life Of Crime, Minority Report: Xbox

ENDGAME

SPIDER-MAN VS THE KINGPIN

» The Kingpin has planted a bomb in New York City, and he's convinced the public that Spider-Man is to blame! Now Spidey has 24 hours to stop the explosion and prove his innocence. Why does the public so readily believe that a hero would do this? Why does the villain allow the hero to clear his name? Who knows? Let's just skip to the ending...

01

» Spider-Man has stopped the bomb and turned the baddie over to the police. But those dastardly lawyers will have him back on the streets in no time, thanks to some procedural loopholes. Let's abolish the courts and hang them.

Oh Peter! I'm so glad you're
all right. Is the nightmare
Finally over?
I think so Mary Jane, but
I'd better check at the
to see if I'm still a
wanted man.

02

» Mary Jane has been successfully rescued, and she asks if the nightmare is over. Spidey replies in the affirmative, knowing with certainty that she'll be targeted by other idiots in the future. Why wait? Let's hang them before they try.

I always said The Kingpin
was a crook. Too bad
Spider-Man still comes out
smelling like a rose for
saving the city!
Great pictures Parker.
He sure sold some papers!

03

» Checking in with J Jonah Jameson, it appears that he's pleased that the whole fiasco has sold a bunch of newspapers. That's somewhat unscrupulous, isn't it? Bloody journalists, bunch of leeches and scumbags. Let's hang the lot of them.

Does this mean Spider-Man is
no longer under suspicion?
For now, Parker, for now.
But he'll be in hot water
again soon enough. You mark
my words, Parker.

04

» Worse yet, Jameson is almost disappointed that Spider-Man wasn't the culprit behind the bomb threat. While Spider-Man is free of suspicion, he'll surely come under fire again soon – but not soon enough, in the editor's eyes. And when that day comes, let's suspend the presumption of innocence and hang him.

EVEN AS THEY SPEAK...
Today's your lucky day,
Mr. Peter Parker!
But I'll see you real soon.
Count on it...
After all buddy,
I know where you live!

05

» Spider-Man's next threat is already watching and plotting, because superheroes aren't allowed respite. Venom is the villain in question, and as an alien symbiote formerly bonded to Peter Parker, he's an even bigger threat. There's only one solution to this criminal conundrum, and it involves a noose.

CHILLOUT GAMES

we value your games

www.chilloutgames.co.uk/Sell

review centre since 1st 2005

We Pay £££ For Your Games:

£16.19

£71.44

£14.78

£19.16

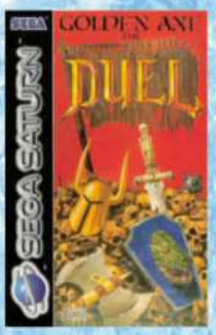
NEW £29.28

£12.57

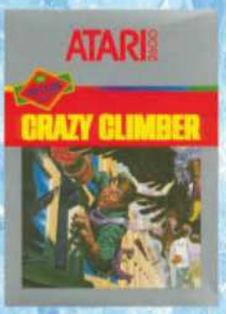
£15.75

£10.99

£11.30



£18.32



£76.23

-GET GREAT PRICES
-WITH FREE COURIER AND FAST PAYMENT

Prices valid as at 23rd January 2017. Prices subject to change on a daily basis. Chillout Games and retro-games.co.uk are trading names of Chillout Games Ltd. Prices are for shop credit - 12% more than PayPal. T&Cs at www.chilloutgames.co.uk.

CROSSOUT

CRAFT • RIDE • DESTROY

PLAY FOR FREE

UNLEASH YOUR CREATIVITY ON

CROSSOUT.NET

Gaijin TARGEM GAMES

PC PS4 XBOX

7 www.pegi.info